THESIS

CULTURE WARS? APPLYING CATEGORICAL VARIATION MEASURES TO THE

STUDY OF SOCIOCULTURAL AND POLITICAL POLARIZATION

Submitted by

Jamie L. Willis

Department of Sociology

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Master's Committee:

    Advisor: Michael G. Lacy

    Lynn M. Hempel
    Jeffrey G. Snodgrass

ABSTRACT

CULTURE WARS? APPLYING CATEGORICAL VARIATION MEASURES TO THE

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Over the last 20 years, an extensive literature has examined the "culture wars," or

increasing socio-cultural and political polarization within the United States. A major focus of the

debate has been whether attitude polarization within the public has increased over that time.

While the diversity of perspective and methods within this literature makes understanding their

conflict difficult, in general, this debate has centered around differences in the definition and

measurement of polarization, consensus, and dissensus. Several researchers have attempted to

clarify the divide within the literature, but with insufficient attention to the role of

methodological differences. Therefore, the first contribution of this paper is to analyze this

literature so as to clearly separate out the distinct and interesting aspects of mass polarization.

Beyond that conceptual contribution, the empirical focus of the current work is to

illustrate the use of three statistical measures designed specifically to study attitude variation or

polarization, which have not previously been used within this literature. These measures, the

Index of Qualitative Variation, the RQ Index, and the Index of Ordinal Variation, each offer a

unique approach to the measurement of dispersion or polarization in a categorical variable, and

thus offer new ways to examine whether the United States has experienced increasing socio-

cultural and political polarization within the public. Each of these measures are designed to

examine variation in categorical data, which has not been treated as such in the literature. Within

this paper, these measures are applied to 120 variables drawn from the American National

Election Studies and the General Social Survey over the last 40 to 50 years to examine changes in dispersion or polarization over time. These findings are used to illustrate the strengths and weaknesses of these measures for capturing increasing social and cultural fragmentation within the public, and to compare the findings of these measures to those of the interval level measures used within this literature.

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DEDICATION

This thesis is dedicated to my greatest contribution to this world,

my daughter, Evynne Grace.

Thank you for seeing only the best in me,

and for being a constant reminder of what is

truly most important.

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Introduction

An extensive literature spanning the last 20 years has examined political and socio-cultural polarization within the United States (DiMaggio et al. 1996; Fiorina and Abrams 2008; Abramowitz and Saunders 2008; Fiorina et al. 2011), but little agreement exists of whether polarization has increased over recent decades. The existence of such an academic dispute, which in part turns on methodological issues, is the impetus for my focus here, which is to explore methodological approaches to describing and measuring consensus and polarization.

This literature, often described as the "culture wars" debate, shows nearly 25,000 publications with the term "culture war" since 1991 (Google Scholar 12/30/2016). The diversity of perspective and methods that have been employed within the literature makes understanding their conflict difficult, but in general, this debate has largely centered around differences in the definition and measurement of polarization, consensus, and dissensus. Although there have been efforts to explain the definitional divides within the literature (see Wood and Jordan 2011 and Mason 2013), these attempts provide little clarity because of their narrow scope and lack of attention to the methodological components within the literature. Therefore, my first contribution is to introduce a categorization of this literature that will cut through previous confusions and clearly separate out the distinct and interesting aspects of mass polarization that researchers have examined. In contrast to Mason (2013) and Wood and Jordan (2011), my categorization is both more comprehensive and methodologically focused, allowing for a better understanding of the divide within the literature.

Although my eventual and primary goal is to contribute to the methodological tools available to study the presence of political and cultural polarization within the public,

understanding the substance of the debate about polarization and dissensus with this "culture wars" literatures provides the background and highlights the need for tools like these.

The literature related to socio-cultural and political polarization of the public (as opposed to within Congress and political party elites)[1] began with James Davison Hunter's (1991) book, *Culture Wars: the Struggle to Define America*. Hunter (1991) is widely cited as the originator of the concept "culture wars," a term he used to describe growing cultural conflict within the American public. Hunter (1991:42) argued that this conflict was characterized by "political and social hostility rooted in different systems of moral understanding," and he argued this would lead to increasing cultural conflict. After the release of Hunter's (1991) book, a conversation erupted surrounding new cultural and political cleavages within civil society. Politicians began using the term "culture wars" in an attempt to gain political support, such as Pat Buchanan, who at the 1992 Republican National Convention, argued the nation was facing a "cultural war as critical to the kind of nation we shall be as the Cold War itself, for this war is for the soul of America" (Buchanan quoted in Fiorina et al. 2011:1). In addition to politicians, the mass media also began using the term, with 1500 newspaper articles published between 1993 and 1996 specifically referring to "culture wars" (Washington Post 2004).

Academics also joined the conversation, with researchers noting that few topics have gained as much attention from political scientists as the debate over mass polarization (Levendusky 2009:162). Yet this debate has largely shifted from Hunter's description of a deeply divided America with increased cultural tensions, to one of increasing attitude polarization within the public. Following Hunter (1991,1994), DiMaggio, Bryson and Evans (1996)

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[1] There is an additional related but distinct focus within the literature that examines the presence of polarization within Congress and within political party elites. While it may seem related to the casual reader, I have intentionally left it out of this review. See Poole and Rosenthal 1984; Binder 1996; Hetherington 2001; Layman and Carsey 2002; Layman et al. 2006; and Dalton 2008 for central pieces within this topic.

completed the first rigorous empirical examination of the "culture wars," and in their article, the conversation was reframed from Hunter's (1991,1994) definition of increased social and political hostility between competing moral views, to DiMaggio et al.'s (1996) definition of increased attitude polarization within the public, which heavily influenced the body of literature to follow. Following DiMaggio et al. (1996) there has been a large, diverse, and conflicting literature, and the purpose of this review is to understand and clarify the basic themes within it.

For the review of literature, I have divided contributions by their definitional and methodological approach to the study of polarization. First, I will discuss Hunter's work (1991;1994) in more detail, and then turn to a discussion of DiMaggio et al.'s (1996) lasting contribution to the definition and measurement of polarization in the public. I then turn to the literature following DiMaggio et al. (1996), first summarizing the definitional divide, and then dividing the literature into topics based on the definition and measurement of polarization, while providing examples of how those methods have been used. I will then explain why it will be beneficial to examine methodological tools of polarization and dissensus that are, as yet, unused or neglected by sociologists and political scientists within the literature.

Chapter 1: Literature Review

"Culture Wars"

As stated before, Hunter (1991) is largely credited for the term "culture wars.[2]" Hunter (1991) used the term "culture" in sociological tradition, which includes the values, beliefs, and norms within a society (Peterson 1979). Hunter (1991) provided a detailed account of his observations within civil society and the historical development of the "culture war", but more importantly, he began a discussion about the trend of increasing tensions within the public surrounding social and cultural matters. Hunter's (1991) primary claim was that cultural issues related to values, beliefs and norms, such as issues surrounding the definition of the family, abortion, affirmative action, child care, public education, gay rights, or more broadly, the matters of "moral authority", were becoming increasingly important in political matters, leading to "cultural conflict at its deepest level" (Hunter 1991: 42, 49). Hunter (1991: 43-44) argued that the divisions within the American public could be traced back to divisions in "moral authority" or "world view," with cleavages created by an "impulse to orthodoxy" or an "impulse toward progressivism." Hunter argued that with these views being rooted in morality, there is no possibility of compromise, and the dispute becomes a quest for power over the right to impose one's morality upon others, and will ultimately end with an increase of violence within the public (Hunter 1991).

The first empirically quantitative investigation of Hunter's (1991,1994) claims of increased cultural fragmentation came from DiMaggio, Evans and Bryson in 1996. DiMaggio et al. (1996:692-693) pointed out that while the concepts of polarization and cultural conflict were

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[2] also see Wuthnow 1988 for a related but less cited contribution.

prominent in political discourse, there was "little guidance in defining it." Hunter (1991) used hostility and increased tension as part of his definition of culture wars, and argued that while "culture wars" and polarization are linked, "culture wars" cannot be explained only in terms of citizens' opinions or attitudes on public issues. In contrast to Hunter (1991), DiMaggio et al. (1996:692) focused on mass polarization, and argued that polarization is not categorized by "noisy incivility in political exchange," or how disagreements are expressed, but by "the extremity of and distance between responses." Therefore, DiMaggio et al. (1996) reframed the conversation surrounding "culture wars" towards a focus on increasing separation of socio-cultural and political attitudes within the public.

DiMaggio et al. (1996:693) identified 4 unique dimensions of polarization, each with a unique definition and corresponding measurement to identify the presence of polarization within the public. First, to be polarized, they argued opinion must be dispersed, with increased dispersion leading to difficulty maintaining centrist political consensus (the dispersion principle) (DiMaggio et al. 1996). Second, as opinions move towards different modes and those modes becoming increasingly separate, there is increased probability that social conflict will occur (the bimodality principle, see Esteban and Ray 1994) (DiMaggio et al. 1996). Third, the more closely associated social attitudes become, the more likely social conflict becomes (the constraint principle, see Converse 1964) (DiMaggio et al 1996). Fourth, the more closely associated individual characteristics or identities become with opinions, the more likely they will become "the foci" of social conflict (the consolidation principle, see Blau 1977) (DiMaggio et al. 1996: 693). DiMaggio et al.'s (1996) lasting influence within the literature may have been the result of others' claims that Hunter's (1991) definition of culture wars was difficult to measure (Alwin and Tufis 2016), and in contrast, DiMaggio et al. (1996) provided a comprehensive approach to

examine an increase in polarization within the public. DiMaggio et al.'s (1996) article is a heavily cited contribution to the study of "culture wars" and public attitude polarization, and with and without acknowledgement, nearly all subsequent contributors use one or more of DiMaggio et al.'s dimensions of polarization in their definition or measurement of polarization. While DiMaggio et al. (1996) focused on broad areas of dissensus both within the American public as a whole and between several social groups divided by race, gender, education, political party, etc., much of the subsequent literature from political scientists narrowed the focus to examining public opinion polarization between citizens based on liberal/conservative ideology or political party identification.

Although many contributors use DiMaggio et al.'s (1996) article as a starting point for the measurement of polarization, there is still ongoing disagreement about what can be called "polarization," and whether attitude polarization characterizes a "culture war." While one could spend a considerable amount of time outlining the arguments within the literature, it is most important to first point out that there are two separate camps within this literature: the first (Fiorina et al. 2011 and others), believes that popular polarization is a "myth", and that polarization can only be characterized by increased dispersion and bimodality in the overall distribution of public opinion. The other (Abramowitz and Saunders 2008, and others) maintains that polarization is occurring, and they argue that while increased dispersion and bimodality of opinion is evidence of polarization, they also believe that polarization can be measured by looking at differences between social groups (consolidation), the relationship between separate attitudes (constraint), and increased hostility towards those with opposing views (sometimes referred to as emotional polarization). Interestingly, although the researchers within the literature

respond to the criticism of others, they rarely acknowledge they are using different perspectives and measurements in their examination of polarization, and instead use the methods of their perspective to try to discount the findings of others.

Polarization vs. Party Sorting

A central point of this debate over how polarization can be defined and measured, relates to the movement of citizen's into increasingly different parties. While some researchers claim that polarization is occurring within the public (Abramowitz and Saunders 2008 and others), Morris Fiorina and his colleagues have claimed that polarization within the public is a myth perpetuated by the "misinterpretation of election results, a lack of comprehensive public opinion data, systematic and self-serving misrepresentation by issue activists, and selective coverage by an uncritical media" (Fiorina et al. 2011:8). They argue that the public is not "deeply divided," but "closely divided," and most citizens still hold centrist positions (Fiorina et al. 2011:12). While they agree that partisan polarization is "a significant development," Fiorina et al. (2011:61) believe that increasing partisan polarization without increasing "popular polarization" is evidence of party "sorting," where citizens are more likely to identify with the "ideologically correct" party, as a result of the polarization of political party activists and politicians. While Abramowitz and others use correlations between social locations and attitudes, or correlations between several social issues as evidence of polarization, Fiorina and his colleagues maintain that polarization is only characterized by increasing dispersion or bimodality of public opinion within the population as whole.

In addition to the definitional/measurement divide in the literature, there is also a disagree about how much difference between attitudes is necessary to be deemed polarization. For example, Fiorina et al. (2011) calculated the average difference in attitudes between Republicans

and Democrats on 24 political and policy attitudes and 17 social and personal attitudes between 1987 and 2003, finding that the average difference between them increased from 12% in 1987 to 17% in 2003 for political and policy attitudes, and from 7% to 11% for social and personal attitudes. While Fiorina et al. (2011) claim this increase of 4 to 5 percentage points is not substantial, this translates to a 42 percent increase on political and policy attitudes and a 57 percent increase on social and personal attitudes between parties over a 16-year period. While Fiorina et al. (2011:64) argues that instead of differences being "further apart than ever," they should be characterized as "still close," others found this increase substantial enough to have consequences for the political system.

Below, I will explain in greater detail the methodological divides within the literature, and provide some examples of how each of these have been used within the literature. While my categorization is similar to DiMaggio et al.'s (1996) dimensions of polarization, having the advantage of 20 years of hindsight, I have found a clearer way to categorize the work of subsequent researchers within the literature. While DiMaggio et al.'s (1996) dimensions of dispersion and bimodality are clearly defined, the terms consolidation and constraint are not intuitive, and subsequent research can be difficult to place within his categorization. I instead choose to place measures of correlation into the same category, while subcategorizing those who use X-Y correlations, or measures of association between predictors and attitudes or issue preferences, and those who use Y-Y correlations, or measures of association between 2 attitudes or issue preferences. Although not all of the approaches fit perfectly in these heuristic categories, I believe that dividing the literature in this way helps clarify some of the disagreements within the polarization debate, and allows me to include examples of polarization research that do not fit

into DiMaggio et al.'s (1996) original dimensions of polarization. In addition to the methodological review, I also hope to point out some of the differences in the interpretation of the data as illustrated above.

Measures of Dispersion

When thinking about what polarization looks like, most think about the views of citizens within the population moving farther apart, and measures of dispersion capture this by measuring the variability or the average distance of the responses from the central tendency of the data (Neuman 2011). DiMaggio et al. (1996:693) argued that dispersion is an important aspect of polarization due to its ability to inhibit "centrist political consensus". Typically, dispersion is measured within the population as whole, and as dispersion increases, citizens' views are moving further from the overall mean position of public opinion within the population. As stated before, several researchers (Fiorina et al. 2011; Fiorina and Abrams 2008; Fiorina and Levendusky 2006) believe that dispersion of public opinion within the U.S. population is one of few appropriate measures of polarization, and although all researchers generally agree that increased dispersion can be used as an indicator of public attitude polarization, it is one of the less frequently used measures within this literature, most likely because the level of measurement of survey items does not always allow the dispersion measures used within this literature thus far to be used effectively.

To measure within-population dispersion, DiMaggio et al. (1996) used variance because of its ability to capture the extent of differences in responses and the presence of extreme responses. They created a scale of NES attitude variables between 1972 and 1994 (government aid to minorities, abortion attitudes, women's roles, and feeling thermometers towards blacks, poor people, liberals, and conservatives) and GSS attitude variables between 1977 and 1994

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(women's public roles, family gender roles, sexuality attitudes, racism, crime and justice, sex education, school prayer, and divorce law) to examine if the social attitudes of Americans were polarizing (DiMaggio et al. 1996). They found that dispersion (or polarization) of the GSS scale was decreasing while the NES scale was stable. For each item on their own, DiMaggio et al. (1996) only found increasing dispersion for attitudes on abortion and feelings towards the poor. All of the other items were stable or saw a decrease in polarization over the time period. In addition to dispersion within the population as a whole, DiMaggio et al. (1996) also looked at dispersion within certain groups of citizens, such as political activists, voters, college graduates, and the young, but found no evidence of polarization that was substantially larger than the general public as a whole. DiMaggio et al. (1996:708) called their findings "an important corrective to the rhetoric of 'culture war' and the dire warnings of political commentators," yet others haven't completely agreed with their findings.

While DiMaggio et al. (1996) used variance to examine trends of dispersion, others used standard deviations to document increasing or decreasing polarization. Abramowitz (2006) documented increasing polarization by creating a 7-item policy scale (using placement on the liberal/conservative scale, and several issue scales including government aid to blacks, defense spending, abortion, jobs and living standards, government spending vs. services, and health insurance) and comparing standard deviations among groups divided by political participation between 1984 and 2004. He found that for all levels of political participation (nonvoters, voters, active citizens and campaign activists) dispersion had increased from between 6 percent to 14 percent over the 20-year period (Abramowitz 2006). In contrast, Fiorina et al. (2011) found that standard deviations on the same policy issues over the same time period had slightly decreased. While this disagreement on the increasing or decreasing dispersion of the policy attitudes most

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likely reduces to differences in measurement[3], both found the standard deviations to be evidence of their argument; increasing political polarization in the electorate for Abramowitz (2006), and the "myth" of a culture war for Fiorina et al. (2011), leading to confusion within the literature about the presence of polarization within the American public.

Another approach to document changes in dispersion within the public comes from Abramowitz and Saunders (2008). Although Abramowitz and Saunders (2008) did not acknowledge that they were using dispersion as an approach, they argued that elections have become highly competitive at the national level, with close to a 50/50 split in the national vote margin. With a .50 vs. .50 proportion being the highest amount of dispersion possible for a binary variable, the close elections at the national level in the 2000's showed a highly dispersed vote. In contrast, Fiorina and Abrams (2008) argue that voting data and exit polls cannot answer questions about polarization within the public. They criticize Abramowitz and Saunders (2008) for their methodological approach, stating that vote choice is behavioral not attitudinal, and that measuring vote choice does not allow one to distinguish between a polarized public and the polarized choices that citizens must choose from when voting (Fiorina and Abrams 2008).

Measures of dispersion have also been used to examine changes in the distribution of Republican vs. Democratic political party identification within the population. Bafumi and Shapiro (2009) used dispersion to find increasing polarization by plotting increases in the standard deviations of the partisan identification self-placement 7-point scale. They found that the dispersion of political party affiliation declined between the 1950's and 1970's, but had increased considerably from the 1980's into the 2000's (Bafumi and Shapiro 2009:4). Similarly,

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[3] Fiorina et al. (2008:559) contributed this disagreement to Abramowitz and Saunders' use of "multiple recodings and aggregations," but Abramowitz and Saunders (2008) replied with a more thorough investigation, and once again showed evidence of what they considered increasing polarization.

Alwin and Tufis (2016) used variance to examine increased dispersion of political views, using the 7-point liberal/conservative self-placement scale. They found significant polarization of political views between 1974 and 2010 (Alwin and Tufis 2016).

One last example of dispersion comes from Wood and Jordan (2011) who agreed that dispersion is an important aspect of polarization, yet they considered dispersion polarization to be characterized by unchanging differences in central tendency between parties, with decreasing dispersion within each party, meaning citizens within each party are increasingly concentrated around their means. Wood and Jordan (2011) found that there has been a decrease in the dispersion around each parties mean, particularly for Republicans, telling us that each political party is becoming more cohesive overtime.

Measures of Bimodality

In addition to dispersion measures, contributors within this literature agree that bimodality is an important aspect of mass polarization, and when politicians and journalists discuss polarization, they typically discuss this in terms of bimodality, or of a shift from overall consensus towards two separate groups of ideological divided citizens, with few citizens left in the middle. Bimodality can be characterized as the tendency for the population to cluster into two separate ideological modes at the extremes of the distribution (Alwin and Tufis 2016). DiMaggio et al. (1996) identified bimodality as an important aspect of polarization within the public, because dispersion alone tells very little about a distribution's shape. They point out that bimodality is distinct from dispersion, because a population can have dispersed opinions and still have brokers between the extreme positions, but as opinions move towards bimodality, there are fewer brokers, and social conflict between the two extremes is more likely (DiMaggio et al. 1996). Using kurtosis to measure bimodality allowed DiMaggio et al. (1996) to examine if this is

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occurring, by measuring the proportion of extreme responses, and whether responses are skewed towards one side of the distribution or both. Kurtosis is positive when there is a high degree of consensus among the population, and becomes negative as the distribution becomes flatter than the normal distribution (DiMaggio et al. 1996). As the distribution reaches bimodality, kurtosis approaches -2 (DiMaggio et al. 1996:694).

In their analysis of bimodality, DiMaggio et al. (1996) examined the same GSS and NES items and scales analyzed above, and overall found no change in bimodality. On specific issues, such as attitudes towards family values, they found less bimodality, and although there was a small amount of polarization on abortion attitudes, bimodality peaked in 1984 and then remained stable. DiMaggio et al. (1996) did find an increase in bimodality over time on attitudes towards the poor and government assistance for minorities, as well as in feelings towards conservatives, showing a slight increase in polarization of some key issues. Later, Alwin and Tufis (2016:239-40) also used kurtosis to examine polarization, but instead of using specific policy attitudes, they found that there has been increasing bimodality of conservative/liberal political ideologies since the 1970's.

Many have noted that bimodality is difficult to capture, and other researchers have used differing methods to attempt to capture these trends. Campbell and Cannon (2006) also used the 7-point NES liberal/conservative scale, but documented a decrease in the number of "don't know" responses to measure bimodality. Although a decrease in the number of moderates or the number of citizens that don't identify with a conservative or liberal identity doesn't guarantee a shift towards bimodality, (this assumes that all moderates or independents fall between Democrats and Republicans or Liberals and Conservatives on the continuum), they argued that the shrinking number of moderates indicated a shift towards two competing camps and increase

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in bimodality of party affiliation. Abramowitz and Saunders (2008) employed a similar method, using the 7-point party identification and liberal/conservative continuum scales to document a decrease in the number of respondents who identify as moderates. Bafumi and Shapiro (2009) also took this approach by documenting an increase in the number of self-identified partisans, and an almost 50 percent decrease in the number of citizens who identify as independents. Wood and Jordan (2011) also confirmed a decrease in the number of independents since 1980, accompanied by an increase in the number of Republican identifiers, showing that the decrease in Independents may have been a result of Independents moving to the Republican party. Although Fiorina and his colleagues would most likely argue that a decrease in moderates would be evidence of party sorting instead of polarization, Fiorina et al. (2008:556) documented the same shift in the "don't know" responses on the NES as Campbell and Cannon (2006), but also pointed out conflicting evidence in a Gallup poll from 2000 that showed more moderates in 2000 than in the 1970's, leading them to argue that "to some extent, polarization is in the eye of the beholder."

In a more recent examination of bimodality, Dimock et al. (2014) found an increase in citizens that hold consistent ideological views between 1994 and 2014. While DiMaggio et al. (2014) would more than likely consider this a measure of constraint, or the increased ability of a person's view on one issue to predict their views on another, Dimock et al. (2014) examined shifts in the distribution of consistent views overtime looking for a bimodal pattern within the data. They found that the number of Americans in the "tails" of the distribution more than doubled from 10 percent to 21 percent, while the center of the distribution shrunk from 49 percent to 39 percent, showing an increase in bimodality (Dimock et al. 2014:4).

Measures of Correlation/Association

In addition to dispersion and bimodality, DiMaggio et al. (1996) identified two other

dimensions of polarization, consolidation and constraint. Consolidation compares differences in

attitudes between members of groups defined by social locations to measure intergroup

disagreement. DiMaggio et al. (1996) also referred to this as "identity-based polarization," but

because some of these "identities," such as self-placement on the liberal/conservative political

views scale is used as an attitude or preference in other places within the literature, I prefer to

characterize these as X-Y correlations, where researchers use one variable as a social location,

and examine changes in its ability to predict cultural and political attitudes overtime. In addition,

while DiMaggio et al. (1996) provided a clear description of the definitional differences between

consolidation and constraint, some measures that are used as evidence of consolidation by

DiMaggio et al. (1996) are used by others as measures of constraint. Because this can lead to the

confusion of anyone trying to decipher the arguments within the literature, it seems dividing

these into those who treat their analysis as an X-Y correlation vs. a Y-Y correlation provides

more clarity. This also allows me to capture some other examples of methods used within the

polarization literature that do not neatly fit in DiMaggio et al.'s (1996) dimensions of

polarization, such as increases in animosity between groups or measures of geographical

polarization.

X-Y correlation

Although dispersion and bimodality are the most agreed upon indications of polarization,

X-Y correlations are the most frequently used measures within the literature. Researchers have

argued that X-Y correlations are important to measure because intergroup differences in

attitudes, particularly socio-political attitudes, can have serious consequences for political

conflict and the ability for groups to mobilize (DiMaggio et al. 1996; Abramowitz and Saunders 2005). Although X-Y correlations are frequently used in the polarization literature, Fiorina et al. (2011) uses these correlations as evidence of party sorting, which he believes is not evidence of polarization.

DiMaggio et al. (1996) was the first within the literature to use X-Y correlations in the measurement of polarization, and they used differences in central tendency to measure the correlation of social locations and attitudes. For social locations, they used age (<35 vs. >45 years old), gender (male vs. female), race (black vs. white), educational level (high school only vs. college graduates), faith tradition (religious conservatives vs. liberals), political ideology (conservative vs. liberal), region (south vs. other), and political party affiliation (Republican vs. Democrat) to examine whether the difference in mean responses between groups was increasing on 18 difference social and political attitudes (DiMaggio et al. 1996). With most of the groupings, DiMaggio et al. (1996) found no change in polarization, and found convergence between some attitudes in several groups (race, age, educational attainment, religion, region). Between political ideologies (liberal vs. conservative), DiMaggio et al. (1996: 733) found no evidence of polarization on most attitudes, and instead found evidence of "parallel publics," with the attitudes of political conservatives and liberals moving left and right together. The one exception to the trend of stable attitude difference was abortion, where opinions had diverged on both the GSS and NES items (DiMaggio et al. 1996).

For DiMaggio et al. (1996), the examination of polarization between groups divided by political party identification (Republicans vs. Democrats) was a major exception to the overall findings of stable differences or convergence on attitudes. DiMaggio et al. (1996:734) found "significant polarizing trends" between self-identified Republicans and Democrats on 8 out of 17

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social issues (feeling thermometers towards liberals, conservatives, and the poor, and attitudes on abortion, divorce law, crime, and justice). DiMaggio et al. (1996:738) claimed this finding raised "troubling questions about the role of political parties in a pluralist society," and this finding may have influenced later research, with most subsequent researchers focusing on polarization between political parties within the electorate.

In 2005, Abramowitz and Saunders examined the correlation between party identification (strong, weak, and independent Democrats vs. strong, weak, and independent Republicans) and 6 different attitudes (aid to blacks, abortion, jobs/living standards, health insurance, lib/con ideology, and presidential approval) and found that the correlations on each issue had increased "substantially" between 1972 and 2004 (between 43% and 75% increase for each item, with the average correlation increase being 65%). In contrast, Fiorina et al. (2011) cited a Pew study that calculated the average difference in Republican and Democratic attitudes on 24 political and policy attitudes and 17 social and person attitudes, finding the average difference for political and policy attitudes had increased from 12% in 1987 to 17% in 2003, and from 7% to 11% on social and personal attitudes, yet Fiorina et al. (2011:66) argued that Pew had put a "spin on their findings," attesting to the "strength and pervasiveness of the prevailing media frame of a polarization nation." Although these shifts add up to a 42% increase on political and policy attitudes, and a 57% increase in social and personal attitudes during a 16-year period, Fiorina et al. (2011:64) believed this finding should have been characterized as "still together but maybe not quite as close as in 1987." Abramowitz and Saunders (2005) further divided Republicans and Democrats by into groups based on political activism (2 or more activities beyond voting) and examined the difference in policy liberalism between politically active Republicans and Democrats on 8 policy attitudes (NES variables measuring abortion, death penalty, diplomacy

vs. force, environment vs. jobs, gay marriage, jobs/living standards, health insurance, spending/services). They found that the percent difference between the years ranged from 37% to 59% (Abramowitz and Saunders 2005).

Others (Fiorina and Levendusky 2006; Fiorina and Abrams 2008; Fiorina et al. 2008, Fiorina et al. 2011) have also used X-Y correlations, but argued that this was evidence of party sorting, not polarization. Fiorina and Levendusky (2006:61) calculated the correlations between party identification and four policy issue areas (New Deal issues, cultural issues, racial issues, defense issues), and although correlations did increase (only a chart was provided, not exact numbers), they claimed that the correlations were "still much closer to zero than to one." In addition, Fiorina and Levendusky (2006) argued that even if the correlations were dramatically increasing, this would be evidence of party sorting, not polarization. Fiorina and Levendusky (2006) used a theoretical chart of changing political affiliation alongside stable dispersion among the whole population to document how party sorting could occur. They then cited DiMaggio et al. (1996) as evidence of an unchanging aggregate ideological distribution, and claimed that the middle was not vanishing within the public, and claimed that instead we witnessed a tighter fit between political ideology and party affiliation that created the increase in correlations (Fiorina and Levendusky 2006).

Examining the effect of political party identification on issue preference is the most frequently used method for examinations of mass polarization. After Fiorina and Levendusky's (2006) criticism of Abramowitz and Saunders (2005), the use of the method did not slow down. Abramowitz and Saunders (2008) responded with another examination of the correlation between political party affiliation and attitudes on 6 political views (aid to blacks, abortion, jobs/living standards, health insurance, lib/con ideology, and presidential approval) between

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1972 and 2004, showing again that correlations had increase overtime on each issue. Abramowitz and Saunders (2008) also examined differences in the mean position of political engaged citizens on 8 political views (abortion, death penalty, diplomacy vs. force, environment vs. jobs, gay marriage, job/living standards, health insurance, and spending vs. services), finding that political engaged citizens are considerably more polarized than the general public, particularly on the issue of military force vs. diplomacy. They also found that the mean difference in liberal/conservative ideology between party identifiers was "both substantially and statistically significant" (Abramowitz and Saunders 2008). Wood and Jordan (2011) also examined changes in mean issue position between political party identifiers, and found that the difference had doubled since 1989. (For more examples of contributors using the correlation between political party identification and issue preference, see Layman et al. 2006; Baldassarri and Gelman 2008.)

Although examining differences between Republican and Democratic identifiers is the most common use of X-Y correlations within the literature, others have examined polarization using different social locations as predictors. Abramowitz and Saunders (2005) looked at religious polarization, finding that the frequency of religious observance was highly correlated with political attitudes and behavior, with the widest gap on cultural issues, such as abortion and gay marriage. Abramowitz and Saunders (2005) argued these findings were evidence of increased polarization on social and policy attitudes within the American public. Another interesting examination of X-Y correlations comes from Cizmar et al. (2014), who used authoritarianism as a set of personality traits (defined by views towards obedience and other parenting views) as a predictor for political views. They found a significant correlation between authoritarianism and conservatism on issues such as isolationism, defense spending, abortion,

women's rights, immigration, yet found no relationship between authoritarianism and social welfare policy views (Cizmar et al 2014). While views towards obedience and parenting values could be considered an attitude instead of a social location, because Cizmar et al. (2014) consider these to be personality traits, I argue that this would be used best as an example of an X-Y correlation.

Several researchers also used vote choice as a dependable variable in X-Y correlations. Knuckey (2007) found that moral values had a significant effect on vote choice in elections. Abramowitz and Saunders (2008) also provided evidence of polarization using vote choice, claiming there was a strong correlation between religious beliefs/practices, church attendance, evangelicalism and presidential candidate choice. Abramowitz (2010) also used vote choice as a dependent variable, using both age and race to predict vote choice in the 2008 election. Fiorina et al. (2008) examined the relationship between income (top and bottom 1/3 of earners) and presidential vote choice, but as stated before, Fiorina and his colleagues argue that first, differing vote choice is evidence of polarized choices, not a polarized public, and second, voting is a measure of behavior not attitude change, and therefore cannot be considered polarization.

Another example of the use of X-Y correlations are researchers that examine geographic polarization. Although these researchers think of this as different than DiMaggio et al.'s (1996) dimension of consolidation, these researchers examine differences between states that have a Republican or Democratic majority, using the state of residence as a social location. Abramowitz and Saunders (2008) used states as an independent variable and social and cultural differences as a dependent variable to show large differences in the social and cultural characteristics between states on issues including religiosity, religious affiliation, gun ownership, union membership, and opinions on abortion, gay marriage, the Iraq war, etc. They also compared vote margins across

states to show that while national elections are highly competitive, at the state level, elections have become less competitive. The average margin of victory at the state level has increased dramatically with 38 of 50 states having a margin of 5 points or higher, and far more electoral votes across the nation are considered safe than in the past, a decrease of 337 competitive electoral votes in 1976 to 141 in 2004, which they attribute to evidence of increased geographic polarization (Abramowitz and Saunders 2008:548). Fiorina et al. (2011) also examined geographic polarization by examining the difference in policy issue preference between Republican and Democratic majority states in an effort to show that the differences between citizens of different states are not as large as others (Abramowitz and Saunders 2008) portray them to be. They find that the divide between Republican and Democratic majority states are small, with the largest differences (environmental protection and defense spending) being only 6 and 7 percentage points (Fiorina et al. 2011). (For more information on the sociocultural differences associated with geographic polarization, see Bishop and Cushing 2008).

Another subsection of the polarization literature looks at increasing animosity of citizens towards both other citizens and politicians from differing parties. While this fits most closely with Hunter (1991)'s conceptualization of "culture wars," characterized by increasing hostility between citizens with different moral worldviews, others have argued that increasing animosity is not indicative of increasing polarization (DiMaggio et al. 1996; Fiorina et al. 2011). Abramowitz and Saunders (2008) examined the percent difference in presidential approval ratings between Republican and Democratic identifiers, finding that differences between parties had been steadily increasing. The difference between parties in 2004 (President George W. Bush) was the highest (71-point difference) it had been since 1972 when the NES first asked the question (36- point difference for President Nixon). Jacobson (2014) also analyzed differences in

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presidential approval ratings between parties and found that the trend of increasing differences continued into Barack Obama's presidency with a larger margin in 2012 than under President Bush. Jacobson (2014) also found that Obama received the coldest temperature rating from voters of the opposing party that had ever been received by a president during a reelection year, and the widest temperature rating difference between parties ever recorded. Fiorina and Abrams (2008:575) argued that animosity towards politicians are not valid measures of polarization, claiming "polarized presidential approval ratings reflect the president's positions and actions, not polarized voters."

Addressing animosity within the public between party identifiers, Fiorina et al. (2011:68) finds that while strong partisans are more polarized than weak partisans, overall there was only a small increase in animosity of 5 to 10 degrees between 1980 and 2004. Contrary to the findings of Fiorina et al. (2011), Dimock et al. (2014) found a considerable increase in interparty animosity within the public. In their Pew Research Center study in 2014, they found that there was also increasing animosity toward both politicians and citizens from the opposing party (Dimock et al. 2014). Comparing 1994 to 2014, the number of Democrats that found Republicans "very unfavorable" had increased from 16 percent to 38 percent (a 138% increase), while the increase for the number of Republicans finding Democrats "very unfavorable" increased from 17 percent to 43 percent (a 153% increase) in a 20-year period (Dimock et al. 2014). In addition, 27 percent of Democrats and 36 percent of Republicans agreed that the other party was "a threat to the nation's wellbeing" (Dimock et al 2014).

In addition to these X-Y correlations, others look at the increase in the correlation between party identification and self-placement on the liberal-conservative ideology scale. Some researchers call this "partisan polarization" (Abramowitz and Saunders 2005; Abramowitz and

Saunders 2008) and others have used this as a measure of constraint (Alwin and Tufis 2016).

DiMaggio et al. (1996) defined constraint as increasing correlation between one opinion and

another, yet Alwin and Tufis (2016:236) believed it could also be characterized by the increasing

correlation of aspects of "political identities." To measure the correlation between party

identification and liberal/conservative ideologies, Abramowitz and Saunders (2005) compared

the mean liberal/conservative ideological placement score on the NES between Republicans and

Democrats overtime (including leaning partisans), finding a 113 percent increase in the

difference between 1972 and 2004. Abramowitz and Saunders (2008) also found that the

correlation had almost doubled between 1972 and 2004, from .32 to .63. Using the GSS, Alwin

and Tufis (2016) found that the correlation between political party identification and ideological

placement had more than doubled, from .2 in 1974 to .5 in 2010. In addition, Bafumi and Shapiro

(2009) used logistic regression to show an increase overtime in the ability of liberal/conservative

ideology to predict party identification.

Y-Y Correlation

In addition to those using X-Y correlations to study polarization, many have used Y-Y

correlations, or correlations between attitudes or policy preference, to show increasing

"ideological cohesion" or "opinion constraint" (DiMaggio et al. 1996: 696). DiMaggio et al.

(1996:697) argued that constraint is important to any conceptualization of polarization because it

is characterized by formally unrelated opinions becoming "bound up in a narrative" or "master

frame," and because of its potential impact on group formation and mobilization.

DiMaggio et al. (1996) used Cronbach's alpha, which is typically used as a measure of

scale reliability, to measure constraint. They argued that this allows them to represent the degree

of association between variables "equal to the proportion of the total variance among the items

that is due to the latent variable underlying them" (DiMaggio et al. 1996: 697). DiMaggio et al. (1996) didn't discuss particular pairings of opinions used in their analysis, but said they found no significant increases in constraint over time.

Baldassarri and Gelman (2008) also examined inter-issue correlations, but refers to this phenomenon as "issue alignment." They argued that issue alignment was particularly important in the study of polarization, because as people opinions become more aligned on multiple issues, social integration and political stability is threatened. Baldassarri and Gelman (2008:430) examined inter-issue correlations for attitudes including "new lifestyles, traditional values, abortion, affirmative action, federal spending for the environment, moral behavior, and equality," finding the correlations remained stable, with only a few moderate increases.

Abramowitz and Saunders (2008) also examined increasing correlations between attitudes (lib/con identification, aid to blacks, defense spending, jobs and living standards, health insurance, government services and spending, and abortion), finding that the average correlation increased from .20 in the 1980's to .32 in 2002-2004, a 60 percent increase. In addition, they found that the percentage of voters that had consistent views across these issues (meaning their view on one issue could predict their view on another issue) increased from 24 percent between 1982-1990 to 33 percent in 2002-2004, a 38 percent increase. When dividing respondents into groups based on voting behavior, political knowledge, political interest, and education, each group (even nonvoters) showed an increase in inter-issue constraint (Abramowitz and Saunders 2008). While Fiorina and Abrams (2008) do not discount the findings of increasing inter-issue constraint by others, they argue that when this is accompanied by an unchanging distribution of opinion within the public (no increasing dispersion or bimodality), this is evidence of party sorting, not polarization.

In addition to examining increases in the correlation between separate attitudes, others use Y-Y correlations to examine changes in the number of "floating voters" or "split-ticket voters." Jacobson (2014) documented an increase in the percentage of citizens who vote along party lines, meaning their vote for one candidate, Republican or Democrat, can better predict their vote for another candidate in other elected offices, resulting in fewer "split tickets" during election years. Smidt (2015:??) also documented this increase, and as well as an increase in the correlation of Presidential vote choice across election years, finding that Americans currently have the "highest observed rates of party allegiance across successive presidential elections," what he called the decline of the "American floating voter."

Conclusion

In conclusion, even with the disagreement on levels of electoral polarization, most scholars have argued that levels of polarization are important to examine. Ura and Ellis (2012:278) argued that within the disagreement over the "qualitative degree (big or small) and substantive importance (substantial or minimal) of partisan polarization," even those who claim to be "polarization minimalists concede that the growing gap between the parties is a significant development." Downey and Huffman (2001) suggested that "social polarization occupies an important place in theories of democracy because of its inverse relation to social consensus" (494), and many have argued that polarization can present "substantial barriers to a healthy democracy" (Westfall et. al. 155) and lead to political volatility (Downey and Huffman 2001:495).

Wayne et al. (2007) argued that in the United States, political consensus "embraces the desire for a government, based on popular consent" (10), where "the public should be the driving force" (194). Therefore, if the polarization witnessed among party elites is not also found within

the public, the outcome is a political system that is not representative of the electorate. Although some point out that polarization within the public can have positive consequences, such as increased likeliness of engaging in various forms of political action, including increased voter turnout (Westfall et. al. 2015), others note that electoral polarization can also create social dysfunction and lead to a decrease in political civility within the public (Pierce 2014). These claims echo those of Hunter (1994), who argued that "cultural conflict is inherently antidemocratic," and results in citizens that "only talk at or past each other" (5, 8).

Consensus has also long been an important part of the sociological tradition, and many classical Sociologists discussed its importance in civil society. Simmel (1905:491) discussed the balance between consensus and conflict in society, arguing that "society … requires some quantitative relation of harmony and disharmony, association and dissociation, liking and disliking, in order to attain to a definite formation." Coser (1967:20, 47) also discussed the tension between social conflict and consensus, stating that "highly polarized societies" can lack a "common definition of the situation binding all members of the society to commonly held perceptions," and "to the extent that a society or group is rent into rival camps so that there is no community of ends between the parties, if one party is not willing to accept the definition of the situation that the other propounds, the making of peace becomes an almost impossible enterprise".

Because of the importance of consensus within the study of civil society, and the current conflict with the polarization literature over the presence of socio-cultural and political polarization within the public, it seems that the next logical step in the investigation is to apply methods specifically developed to study consensus, dissensus, and polarization that have not yet been used within the literature. In addition, because both dispersion and bimodality are the only

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conceptual aspects of polarization that are agreed upon, yet are the worst dealt with methodologically, using measures specifically designed to examine dispersion and bimodality in categorical variables may help clear up some of the discrepancies between contributors. Although these methods may not entirely resolve the dispute, my hope is that they can bring forward new ways to examine and discuss polarization within the American public.

Chapter 2: Methods

As discussed above, there is little agreement within the literature regarding the best way to conceptualize or measure polarization. There is, however, conceptual agreement that citizens within the electorate as a whole moving farther apart in distance and in extremity of opinion is an aspect of polarization, and methodological agreement that increased dispersion and bimodality is evidence of polarization. While several contributors have investigated dispersion and bimodality within the literature, the attitudinal variables examined are primarily categorical, and previous work largely uses measures that treats the data as interval level. This is somewhat surprising, as relevant measures for categorical data have been available for many years. Presenting these measures that are specifically designed to measure dispersion or bimodality of categorical variables, and pointing to their relevance for analyzing "culture wars", is one key contribution of this thesis, as these measures are currently absent from the literature. The purpose of the current chapter, then, is to present such categorical measures, not only for their application to the current problem, but more generally to further knowledge of available tools for understanding consensus and dissensus within social groups.

Indices of Qualitative Variation

The oldest of these measures, the Index of Qualitative Variation (*IQV*), appears in many forms over time and across disciplines, but in whatever form, it is a measure of dispersion for nominal variables. For a nominal, unordered variable, it measures where the distribution of

responses stands between maximum consensus, where all responses are concentrated in one category, to maximum dispersion, where responses are equally distributed between all categories. The *IQV* is defined[4] in terms of Simpson's Index:

$$D = 1 - \sum_{i-1}^{k} p_{i^2}$$

where *k* equals the number of categories, and p_i is the proportion of observations in the ith category (Agresti and Agresti 1978). This measure represents the probability that two randomly chosen individuals would respond in different categories. The measure is then standardized to a range from 0 to 1 by dividing *D* by its maximum possible value: $(k – 1/ k)$:

$$IQV = \frac{D}{D_{max}}, \text{ or } \quad IQV = \frac{1 - \sum_{i-1}^{k} p_{i^2}}{\frac{(k-1)}{k}}$$

Standardizing makes its value more easily interpretable, and also makes possible comparison between the dispersion of variables with different numbers of response categories[5].

As a means to illustrate how the *IQV* works, Table 2.1 below shows a hypothetical set of frequencies for 6 distributions, with dispersion falling between minimal and maximal dispersion.

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[4] Mueller, Schuessler, and Costner (1977) use an apparently different, though essentially identical formula. I chose to use the Agresti and Agresti (1978) formula, because I believe it to be more intuitive, and it allows a more straightforward comparison between the other measures I will be discussing in this chapter.

[5] While most researchers use the standardized version, there has been discussion of both advantages and disadvantages to the standardization of indices of qualitative variation. To sum up the main argument of those who are skeptical of the standardized version, an increased number of possible categories may reasonably contribute to increased dispersion, and in this case, it may be more appropriate to use the unstandardized index (Lieberson 1969:860-861). For more information regarding these differences, see Agresti and Agresti 1978; Lieberson 1969: 860-861; and Mueller, Schuessler, and Costner 1977: 177)

As demonstrated here, as the spread across categories increases, the *IQV* value also increases. To illustrate how this measure might be used in practice, imagine that these distributions represented responses to questionnaire items about which value is most desirable for a nation (maintaining order, giving people more of a say in political decisions, fighting rising prices, protecting freedom of speech, etc.). As the *IQV* increases, the spreading of opinion related to the most important value may make political consensus on policy decisions more difficult.

Table 2.1. Frequencies and proportions of six hypothetical distributions with *IQV* score.

Distribution	$i = 1$ $f(p)$	$i = 2$ $f(p)$	$i = 3$ $f(p)$	$i = 4$ $f(p)$	$i = 5$ $f(p)$	*IQV*
1	0 (0.0)	0 (0.0)	100 (1.0)	0 (0.0)	0 (0.0)	**0**
2	0 (0.0)	10 (0.1)	80 (0.8)	10 (0.1)	0 (0.0)	**0.43**
3	5 (0.05)	10 (0.1)	70 (0.7)	10 (0.1)	5 (0.05)	**0.61**
4	5 (0.05)	20 (0.2)	50 (0.5)	20 (0.2)	5 (0.05)	**0.83**
5	10 (0.1)	20 (0.2)	40 (0.4)	20 (0.02)	10 (0.1)	**0.93**
6	20 (0.2)	20 (0.2)	20 (0.2)	20 (0.2)	20 (0.2)	**1**

An important aspect of the *IQV* is that because the measure does not take into account the order of categories, the categorical location of frequencies does not affect the *IQV* value. For example, if we take distribution 2 from the Table above and manipulate which categories hold the responses, the *IQV* does not change (See Table 2.2 below). While this is beneficial for the analysis of nominal variables, as none of the response categories are considered more extreme than another, using the *IQV* for ordered items would result in the loss of information. If the item in Table 2 was a Likert item, for example a 5-point scale between "strongly agree" and "strongly disagree" on a political or cultural preference, the *IQV* would not be able to distinguish the

difference between distribution 1 where the majority of responses are in the middle category, and

distribution 2 and 3 where the majority of responses are in one of the more extreme categories.

Table 2.2. Frequencies and proportions of 3 varying distributions with identical IQV scores.

Distribution	$i = 1$ $f(p)$	$i = 2$ $f(p)$	$i = 3$ $f(p)$	$i = 4$ $f(p)$	$i = 5$ $f(p)$	*IQV*
1	0 (0.0)	10 (0.1)	80 (0.8)	10 (0.1)	0 (0.0)	**0.43**
2	80 (0.8)	10 (0.1)	10 (0.1)	0 (0.0)	0 (0.0)	**0.43**
3	0 (0.0)	0 (0.0)	10 (0.1)	10 (0.1)	80 (0.8)	**0.43**

Although the *IQV* is absent from the political polarization literature, both Leiberson

(1969) and Wilcox (1973) many years ago pointed to its potential value within the social

sciences. Leiberson (1969) argued that because of its ability to capture diversity in attitudinal and

social characteristics, the potential uses for the *IQV* in sociological research is extensive,

particularly in the examination of consensus, cohesion, and political cleavage. Wilcox (1973)

similarly expressed concerns about its disuse within political science, and in his own work used

the *IQV* to examine the variation in the proportion of votes in several presidential elections, as

well as variance in political party representation variance in the legislatures[6]. More importantly,

Wilcox (1973) provided a list of potential measurement applications for the *IQV*, such as the

need to measure heterogeneity vs. homogeneity or agreement vs. disagreement in item responses,

and specifically mentioned that the *IQV* could also be applied to the examination of electoral

interparty competition (Wilcox 1973). With this information, it is surprising that the *IQV* has not

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[6] As stated earlier in the review of literature, both of these were later examined within the polarization literature
using different measures, although my focus is on cultural and political attitudes within the public.

been applied yet to the study of "culture wars" and political polarization within the public, particularly for nominal variables that have been neglected in the literature's examination of dispersion in the public's preferences.

RQ Index

While the Index of Qualitative Variation brings a new perspective to studying consensus or dissensus, the *IQV* has the disadvantage of not specifically recognizing the potential polarizing features of situations in which persons fall into two distinct groups or value positions, since *IQV* presumes that maximal dissensus (dispersion) occurs with a uniform spread across categories, rather than concentration into extreme and competing positions. Because of the importance of bimodality, both conceptually and methodologically within the literature, another recently developed measure that attends precisely to this potential feature of bimodal polarization of nominal variables would be beneficial to apply in these analyses. This measure is the *RQ Index*, which like the *IQV*, has a value of 0 (maximal consensus) when all responses are in one category, but unlike the *IQV*, attains a maximum of 1.0 when half of the responses fall into each of two categories (Montalvo and Reynal-Querol 2008, 2010). The *RQ Index* is defined as:

$$RQ = 1 - \sum_{i=1}^{N} \left[\frac{0.5 - p_i}{0.5} \right]^2 p_i$$

where p_i is the proportion of each group, and *N* is the number of groups or categories (Montalvo and Reynal-Querol 2010). In Table 2.3 below, several example distributions are shown ranging between minimal dispersion to maximal dispersion for the *RQ Index*. Comparing the first 2 distributions, the spreading out of responses increases the *RQ Index*. In distribution 3, there is a uniform spread of responses between all categories, which is reflected as an increase in polarization from distribution 2 for the *RQ Index*, but for the *IQV*, this distribution would be

considered maximally dispersed. In distribution 3 and 4, where responses move towards

bimodality with 80 percent of responses divided between two of the categories, the *RQ Index*

continues to increase. In the last 3 distributions (5, 6 and 7), when the responses are equally

divided between 2 categories, the *RQ Index* reaches its maximum, regardless of which categories

contain the responses.

Table 2.3. Frequencies and proportions of seven hypothetical distributions with their corresponding *RQ Index* scores.

Distribution	$i = 1$ f (p)	$i = 2$ f (p)	$i = 3$ f (p)	$i = 4$ f (p)	$i = 5$ f (p)	*RQ Index*
1	100 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	**0**
2	80 (0.8)	0 (0.0)	0 (0.0)	10 (0.1)	10 (0.1)	**0.58**
3	20 (0.2)	20 (0.2)	20 (0.2)	20 (0.2)	20 (0.2)	**0.64**
4	40 (0.4)	10 (0.1)	0 (0.0)	10 (0.1)	40 (0.4)	**0.84**
5	50 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	50 (0.5)	**1**
6	0 (0.0)	50 (0.5)	0 (0.0)	50 (0.5)	0 (0.0)	**1**
7	50 (0.5)	50 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	**1**

   Reynal-Querol (1998, 2001) originally developed the *RQ Index* to examine ethnic group

diversity or polarization, but because this measure's purpose is to capture polarization or

bimodality in nominal categorical variables, it can just as well measure cultural and political

attitude polarization. As Reynal-Querol (2002:5) demonstrates, the *RQ Index* is empirically

better suited than previous measures of fragmentation at capturing the potential for social

conflict, one of the negative aspects of electoral political polarization. To illustrate this point,

considering the same item discussed above about which value is most desirable for a nation, if

respondents were equally divided between two categories of the item, for example, half of

respondents identifying the importance of maintaining order and the other half identifying the protecting free speech, this could potentially result in a greater risk for social conflict, as there are no brokers for compromise between the two largest groups. While the *RQ Index* captures bimodality, it does not take into account where in the distribution the frequencies are located. Because the extremity of responses is important for ordered variables, I will discuss next a measure that examines dispersion of categorical variables, such as the *IQV* and *RQ Index*, but takes into account the ordered nature of ordinal variables.

Index of Ordinal Variation

     A shortcoming shared by both the *IQV* and the *RQ index* is that neither recognizes the (possibly) ordinal nature of categorical variables commonly of interest to social scientists. Because many ordinal Likert items are analyzed in the political polarization literature, I now turn to looking at a particular measure that takes into account the ordered nature of these variables, the Index of Ordinal Variation (*IOV*). Before the *IOV* was developed, there was considerable discussion concerning whether the *IQV* could be used for ordinal variables, and while some agreed, others found it inappropriate. Leik (1966:?) pointed out that variables with "quite different distributions," will give "identical indexes of qualitative variation." Like the *IQV* for nominal variables, several similar nearly identical measures exist for this purpose, but I will base my discussion on the work of Blair and Lacy (2000), who present an ordinal dispersion measure they symbolize as $1 - l^2$. While it may see odd that their measure is defined in this way, because their measure is defined in terms of l^2, a measure of ordinal concentration of consensus, it's complement, $1 - l^2$, represents a normed measure of dispersion (Blair and Lacy 2000:258). Therefore, $1 - l^2$, or as I will refer to it, the *IOV* can be written as:

$$IOV = \left(\frac{\sum_{i=1}^{k-1} F_i (1 - F_i)}{(k-1)/4}\right)$$

where F_i represents the cumulative relative frequency for the ith category, or $F_i = \sum_j^i p_j$, where

p_j is the sample proportion for the jth of the k categories (Blair and Lacy 2000:259). The

denominator $(k-1)/4$ represents the maximum possible value for k categories, providing a

normed measure that can be compared across variables with differing numbers of categories.

I use the term Index of Ordinal Variation here for this $1 - l^2$ measure to reflect the essential

identity of this measure to an earlier version of it (Berry and Mielke 1992), as I describe below.

Like both the *IQV* and the *RQ Index*, the *IOV* treats distributions with all responses located in

one category as minimally dispersed, but maximal dispersion occurs when responses are divided

equally between the two most extreme categories, 1 and k, with no responses in between them

(Blair and Lacy 2000). This measure, like the *RQ Index*, captures bimodality, or as suggested by

Trezzini (2011:329), "bipolarization[7]", but takes into account the category location. It is a truly

ordinal measure, as it uses the ordering of the categories, but makes no assumptions about the

measurement distance between any two categories. Table 2.4 shows several hypothetical

distributions to show what a shift from minimal to maximal dispersion might look like using the

IOV. As the Table illustrates, as responses shift towards the extremes, the *IOV* increases.

Particularly between distribution 2 and 3, as the number in the most extreme categories, 1 and 5,

increases dramatically (4x more responses each), the *IOV* increases by 90 percent. Distribution 3

shows a distribution with an *IQV* score of 1, and because 40 percent of responses are divided

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[7] While Trezzini (2011) is critical of labeling this measure a "measure of dispersion" and prefers the term "bipolarization", I would like to point out that while it does measure bipolarization, which is complementary to my focus of study, because the measure is based on variances (a measure of dispersion), I would argue that his criticism of the Blair and Lacy's (2000) measure as a measure of dispersion is largely unfounded.

Table 2.4. Frequencies and cumulative frequencies of six hypothetical distributions and their *IOV* scores.

Distribution	$i = 1$ f (cum f)	$i = 2$ f (cum f)	$i = 3$ f (cum f)	$i = 4$ f (cum f)	$i = 5$ f (cum f)	*IOV*
1	0 (0)	0 (0)	100 (100)	0 (100)	0 (100)	**0**
2	5 (5)	15 (20)	60 (80)	15 (95)	5 (100)	**0.42**
3	20 (20)	20 (40)	20 (60)	20 (80)	20 (100)	**0.80**
4	30 (30)	15 (45)	10 (55)	15 (70)	30 (100)	**0.92**
5	40 (40)	10 (50)	0 (0)	10 (60)	40 (100)	**0.98**
6	50 (50)	0 (50)	0 (50)	0 (50)	50 (100)	**1**

between the most extreme categories, this distribution also has a high *IOV* score (0.80), yet the

IOV score continues to increase from distribution 3 to distribution 6 as responses become more

concentrated in the extremes. While distribution 6 in Table 2.4 would also be maximally

dispersed with the *RQ Index*, other distributions that would be have maximal dispersion using the

RQ Index would not be considered such with the *IOV* because of its sensitivity to the ordered

nature of the items. For example, Table 2.5 compares the *RQ Index* and the *IOV* in several

different bimodal distributions, highlighting the *IOV*'s ability to capture ordinal bimodal

polarization.

Table 2.5. Comparison of *RQ Index* and *IOV* scores for 3 hypothetical distributions.

Distribution	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	*RQ Index*	*IOV*
1	0 (0.0)	50 (0.5)	50 (0.5)	0 (0.0)	0 (0.0)	1	**0.25**
2	0 (0.0)	50 (0.5)	0 (0.0)	50 (0.5)	0 (0.0)	1	**0.5**
3	50 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	50 (0.5)	1	**1**

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If we considered these hypothetical distributions for a Likert item, such an item that asks whether it is the government's responsibility to create new jobs, most would not consider distribution 1 to be polarized at all, with half respondents disagreeing and half maintaining a neutral position. In distribution 2, half of respondents agree and half disagree, yet there are no respondents that hold the most extreme positions. In distribution 3, half of all respondents are located in each of the most extreme categories, which represents maximal dispersion with the *IOV*. Because the location of responses in these categories is important for ordered items like these, the *IOV* would easily be the best choice for the analysis of these items.

Take, for example, another illustration provided in Table 2.6 below. Without the application of any of these measures, we can tell that the distribution of opinion in distribution 1 is very close to bimodal. In distribution 2, the frequencies of responses are the same, but the majority of respondents are in the first 2 categories, which would be closer to how most would conceptualize consensus, with 80 percent of respondents being clustered in the first 2 categories

Table 2.6. A comparison of *IQV*, *RQ Index*, and *IOV* scores across 3 hypothetical frequency distributions with proportions.

Distribution	Strongly Disagree f (p)	Disagree f (p)	Neutral f (p)	Agree f (p)	Strongly Agree f (p)	IQV [%change]	RQ Index [%change]	IOV [%change][8]
1	40 (0.4)	5 (0.05)	10 (0.1)	5 (0.05)	40 (0.4)	**0.83**	**0.82**	**0.98**
2	40 (0.4)	40 (0.4)	10 (0.1)	5 (0.05)	5 (0.05)	**0.83** **[0%]**	**0.82** **[0%]**	**0.54** **[-44.9%]**
3	5 (0.05)	40 (0.4)	40 (0.4)	10 (0.1)	5 (0.05)	**0.83** **[0%]**	**0.82** **[0%]**	**0.47** **[-13.0%]**

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[8] Using standardized measures allows comparison of the same measure between different variables or different points in time, but because these measures do not increase and decrease on the same scale, when comparing the increase or decrease in the amount of variation between measures, percent differences must be used in the comparison.

(agree and strongly agree). In distribution 3, the majority of respondents are closer to the middle. While all three measures are useful in the measurement of dissensus and polarization, when applying each to this fictional dataset (*IQV*, *RQ Index*, *IOV*) we can see that the Index of Ordinal Variation has definite strengths in the analysis of ordinal items.

Now that we have a better understanding of how the *IOV* operates, I will return to some of the interesting history surrounding the *IOV*. The *IOV* is of much more recent origin than the closely related *IQV*. While Leik (1966) first developed a measure of ordinal variation (the LOV) using distributional frequencies, it received very little acknowledgement. Almost 30 years later, Berry and Mielke (1992) found that Leik's (1966) measure was inconsistent, and they developed the *IOV*, the Index of Ordinal Variation, as an alternative to the *IQV* for the use of ordinal data. Berry and Mielke (1992) based their measure on a comparison of all possible pairs of responses, which is also one popular way to define the *IQV* (Mueller, Schuessler, and Costner 1977). In the Berry and Mielke formulation, the *IOV* measure appears to depend on the distance between categories, as shown here:

$$IOV = \frac{T}{T_{max}}, \text{ where } T = \sum_{i<j} n_i n_j \, (j-i), \ 1 \le i < j \le k,$$

with T_{max} as a norming factor representing the maximum dispersion. If N is even,

$$T_{max} = \frac{N^2(k-1)}{4}, \text{ and if } N \text{ is odd}, T_{max} = \frac{(N^2-1)(k-1)}{4}.$$

Blair and Lacy (1996) then developed a measure that did not depend on the distance between categories, yet later discovered that their measure based on cumulative frequencies is essentially identical[9] to the Berry and Mielke's (1992) *IOV*, and they later demonstrated that all of these

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[9] Berry and Mielke's (1996) and Blair and Lacy's (2000) measure are practically interchangeable, with the rare exception occurring under the use of the measure for small samples. Berry and Mielke's (1996) measure is defined much like Mueller, Schuessler, and Costner's (1977) *IQV*, where when comparing all possible pairs, once a pair is picked once, it isn't available to be picked again, but this only becomes of importance for small samples. Therefore, Berry and Mielke's (1996) measure could be considered a small sample corrected version of Blair and Lacy's (2000)

measures can be seen as different ways to measure how far an observed distribution is from a distribution of maximal dispersion[10]. I have chosen to use Blair and Lacy's (2000) version of the equation, first, because it is used more frequently within sociological literature, and second, because it's perspective of both a difference in distance and increased variance fits nicely with my use of the measure. In addition, while it can be shown mathematically that the Berry and Mielke (1992) and Blair and Lacy (2000) measures are the same[11], the formulation of the Blair and Lacy (2000) measure is not based on the distance between categories, which is advantageous for an ordinal measure. I have also chosen to refer to the measure as the Index of Ordinal Variation (*IOV*) to highlight its relationship to the *IQV*, as well as to give due credit to Berry and Mielke (1996) who first developed the method.

Comparison of all three measures: IQV, RQ Index, and IOV

To illustrate the differences between all 3 measures, Table 2.7 provides a hypothetical distribution that highlights the difference advantages of each of these measures. As the Table illustrates, analysis of the same information produces considerable differences across the measures. From distribution 1 to distribution 2, both the *IQV* and *IOV* increased, while the *RQ Index* decreased. As illustrated, opinion has shifted from a majority of responses in the center category towards the outer categories, with each of the four outermost categories increasing by 10 responses each. The *IQV* which is sensitive to a uniform spread of responses shows a 62

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measure, and would be more appropriate to use in cases of a very small sample size. It can be demonstrated that with large sample sizes, like those found in the secondary data sets within this literature, the difference between the 2 becomes incredibly small and is not of substantive importance.

[10] Berry and Mielke's (1992) *IOV* and Leik's (1966) LOV measures are similar in that they both measure the distance of a distribution from one of maximum dispersion, but Leik's (1966) LOV measures the distances using absolute values (what some would call a "city block" or "Manhattan" measurement of distance), while Berry and Mielke's (1992) and Blair and Lacy's (2000) measures uses Euclidean distance, a direct distance from point A to B.
[11] To see Blair and Lacy's explanation of its relationship to Berry and Mielke's (1996) measure, see Blair and Lacy 2000: 275-277).

percent increase, and the *IOV* which prefers half of responses in the two most extreme categories, shows a 103% increase. While responses did move towards a more uniform spread, the *IOV* was sensitive to the increase in the outer most categories, 1 and 5, with each of these categories increasing by 3 times their original frequencies. The *RQ Index*, which like the *IOV*, is also sensitive to a bimodal shift but does not have a preference on which categories the responses are split between, shows a 3 percent decrease.

Table 2.7. Four hypothetical frequency distributions with *IQV*, *RQ Index*, and *IOV* Scores and percent change between distributions.

Distribution	i=1 f	i=2 f	i=3 f	i=4 f	i=5 f	IQV	RQ	IOV
1	5	10	70	10	5	0.606	0.679	0.350
2	15	20	30	20	15	0.981 [61.6]	0.661 [-2.7]	0.710 [102.9]
3	25	20	10	20	25	0.981 [0.0]	0.667 [0.9]	0.870 [22.5]
4	50	0	0	0	50	0.661 [-32.7]	1.000 [45.6]	1.000 [14.9]

From distribution 2 to distribution 3, the *IQV* and *RQ Index* showed little to no change, while the *IOV* increased. In distribution 3, the center category decreased to a third of its responses in distribution 2, with all of the responses moving towards the most extreme categories, 1 and 5, which each increased by 10 responses. While the *IQV* and *RQ* did not pick up on the difference between these distributions (0 percent and 1 percent difference respectively), the *IOV* shows a 22.5 percent increase. For the *IQV*, it is not surprising that the

index did not increase, because it is very close to maximal dispersion in both time 2 and time 3. For the *RQ Index*, the increase is small, as it is not sensitive to the fact that the movement of responses was towards the extreme.

From distribution 3 to distribution 4, both the *RQ Index* and *IOV* picked up on the increasing bimodality of the distribution, a 46 percent increase and 15 percent increase respectively. In contrast, the *IQV* which considers maximum dispersion with each category having equal frequencies, shows a 33 percent decrease. Using these measures concurrently while keeping in mind how each measure defines increasing dispersion, will allow researchers to examine dispersion on cultural and political preferences from multiple perspectives.

Possible application of these measures to the "Culture Wars" literature

To return to the comparison of these measures to those used within the cultural and political polarization literature, one of the most noticeable advantages of these three measures is they are specifically designed to assess the variation, polarization, or consensus and dissensus within categorical data. For nominal measures, the *IQV* and *RQ Index* allow us to examine several nominal variables that previous contributors have not included in their investigation of dispersion of public opinion, and the ordinal measure, the *IOV* allows us to examine ordinal variables without the assumption that each response category is equally spaced. If this assumption is not met while using interval level measures, the result is considerable error in the calculation of dispersion (see Blair and Lacy 2000:251-253 for a more in depth discussion of the negative consequences).

To highlight some potential areas of use for the nominal measures, I will discuss some of the nominal items in the literature that have yet to be analyzed with dispersion measures. Both the ANES and GSS ask respondents to identify what they believe is the "most important"

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political issue, and measures like the *IQV* or *RQ Index* provide us with a measure that can examine shifts in distributional dispersion or polarization between multiple points in time. Baldassarri and Bearman (2007) point out that certain political and cultural issues become more polarized when they are highlighted in the media, yet without a nominal measure of variation, no one has yet examined if the public is polarized on what issue they believe is most important. Other nominal variables, such as the 'most desirable value of the nation' item discussed above, would also benefit from these measures. In addition, abortion is the most agreed upon variable within the literature, with all contributors aside from Fiorina et al. (2011)[12] agreeing that abortion is polarized within the public, but because abortion items in nationwide surveys are measured nominally, such as the item that ask participants under what circumstances abortion should be legal, previous examinations of polarization on abortion attitudes, including Fiorina et al.'s (2011) examination, have used other types of polarization, such as constraint or consolidation, and have not been examined using dispersion or bimodal measures. The *IQV* and *RQ Index* will allow researchers to examine the dispersion of items, that have otherwise been neglected within the literature.

Even for ordinal variables, there are potential uses for the nominal measures. Many contributors consider certain variables within this literature to be ordinal, yet it may be best to treat them as non-ordered. Take, for example, measures of political party affiliation. These items are usually 5 or 7-point scales, and are typically treated as interval-level in their analysis, yet many of these items may not always be considered completely ordinal. Some of these survey items ask participants whether they identify as Republican, Democrat, or Independent, and then

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[12] Fiorina et al. (2011:79-108) largely agrees that there is small differences in abortion attitudes between genders and varying religions, yet they maintain that the "stereotypical" view of the abortion divide is not backed up with statistical evidence, and they argue that even abortion is approached in a "pragmatic fashion" among the American public.

ask them to clarify their position with whether they lean in that direction, or are strong or very strong party affiliates. These responses are then put on a 5 or 7-point scale (Strong Republican, Republican, Independent Leaning Republican, Independent, Independent Leaning Democrat, Democrat, and Strong Democrat for the 7-point scale), which artificially assumes that pure Independents consider themselves moderates on the Republican/Democrat continuum.

Other items ask respondents to identify as Republican, Libertarian, Independent, Democrat, or Green Party, and these questions are also occasionally treated as ordinal. This can cause difficulties in the measurement of the variables, particularly when they are treated as interval-level variables, because this assumes that first, each response category is an equal distance from the other ideologically, and it also assumes that "independents" consider themselves "moderates," which ignores the multidimensional aspect of political ideology (Treier and Hillygus 2009). Using measures such as the *IQV* or *RQ Index*, would allow contributors to avoid the assumptions associated with interval-level measures for variables that should not be artificially considered as such.

For the examination of party affiliation, the *IQV* may be useful for the item that identifies participants as members of the Republican, Democrat, Libertarian, Green or Independent parties, as it provides an additional way to conceptualize what party polarization may look like outside of a bimodal distribution between the two main parties. The *RQ Index* would also be beneficial to the examination of these types of survey items, because unlike the *IQV*, it takes bimodality into consideration. Even though political affiliation items are considered ordinal within the literature, they may benefit from the *RQ Index*'s sensitivity to bimodality that occurs outside of extremes values of the variable. For example, consider the hypothetical distributions below in Table 2.8 and 2.9.

Table 2.8. Hypothetical Frequencies and Proportions for Party Affiliation Variation using the *RQ Index* and *IOV*.

Time	Strong Democrat f (p)	Democrat f (p)	Independent f (p)	Republican f (p)	Strong Republican f (p)	RQ Index [%change]	IOV [%change]
1	10 (0.1)	20 (0.2)	40 (0.4)	20 (0.2)	10 (0.1)	.71	.60
2	5 (0.05)	40 (0.4)	10 (0.1)	40 (0.4)	5 (0.05)	.82 [16.9%]	.59 [-1.7%]
3	0 (0.0)	50 (0.5)	0 (0.0)	50 (0.5)	0 (0.0)	1 [20.5%]	.50 [-15.3%]

Table 2.9. Frequencies and Proportions for Party Affiliation Variation using the *RQ Index* and *IOV* with more extreme responses.

Time	Strong Democrat f (p)	Democrat f (p)	Independent f (p)	Republican f (p)	Strong Republican f (p)	RQ Index [%change]	IOV [%change]
1	10 (0.1)	20 (0.2)	40 (0.4)	20 (0.2)	40 (0.4)	.71	.60
2	40 (0.4)	5 (0.05)	10 (0.1)	5 (0.05)	40 (0.4)	.82 [16.9%]	.98 [63.3%]
3	50 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	50 (0.5)	1 [20.5%]	1 [2%]

While most would consider both Tables an example of bimodal party polarization, because the

IOV is sensitive to where in the distribution the responses are concentrated, in Table 2.8, the *IOV*

considers the shift between time 1 and 2 and time 2 and 3 a decrease in polarization, while the

RQ Index shows a 17% and 21% increase, respectively. In Table 2.9, the *RQ Index* does pick up

on the shift towards the extremes, yet the *IOV*, with its sensitivity to the proportion of responses

in the extreme categories, documents a much stronger shift. Therefore, in instances where

researchers are examining polarization of ordinal variables, it may be beneficial to apply both the

RQ Index and the Index of Ordinal Variation to the data.

Statistical Inference for the IQV, RQ Index, and IOV

For the examples above, I have treated each of the distributions as a population distribution with a basic population size of 100 instead of a sample distribution to simplify the initial discussion of these measures. For the remainder of the discussion, I will be using a sample size of 1000 to illustrate statistical inference for these measures, as the data used within the literature (GSS and ANES) have rather large sample sizes of around 2000 respondents per year[13]. While hypothesis testing is not recommended for these measures[14], each measure has a standard error, which allows the calculation of confidence intervals to examine how accurately the sample statistic can be inferred to the population. While the *RQ Index* does not have a published standard error, using a standard Taylor series approximation (see Agresti 1990), an asymptotic expression for the standard error of the *RQ* index can be derived (Lacy 2017)[15]. The confidence intervals for each of these measures follow the standard formula for confidence intervals, $Sample\ Statistic\ \pm Z(Standard\ Error)$, and the standard error and confidence interval for each of the measures are listed below in Table 2.10. To demonstrate briefly how these work in practice, Table 2.11 below uses the proportion of distributions 1 through 4 shown above in Table 7 to show confidence intervals for each of the measures with a sample size of 1000. As Table 11 illustrates, the *IQV* score for distribution 1 has a confidence interval of 0.56 to 0.65, therefore with 95 percent accuracy, the *IQV* predicts the sample *IQV* score stands between 0.56 and 0.65[16].

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[13] The difference in the standard error and confidence intervals for a sample size of 100 and 1000 is not astronomical, but the larger sample size does produce a tighter confidence interval. For more information on the effect of sample size for measures like these, see Blair and Lacy (2000).

[14] While Agresti and Agresti (1978) provided the formulas for hypothesis testing of the *IQV*, Blair and Lacy (2000) and Lacy (2006) do not recommend using hypothesis testing for these types of measures. For more information, see Blair and Lacy (2000), and Lacy (2006:510).

[15] A special thank you to Dr. Michael G. Lacy for developing a standard error for use with the *RQ Index* for this project.

[16] To demonstrate the effect of sample size, the same distribution with a sample size of 100 has a 95% confidence interval of [0.47, 0.75].

Table 2.10. Standard Error and Confidence Interval Formulas for the *IQV*, *RQ Index*, and *IOV*.

Measure	Standard Error	Confidence Interval
IQV	$$SE_{IQV} = \sqrt{\frac{4\left[\sum_{i=1}^{k}\hat{p}_i^3 - \left(\sum_{i=1}^{k}\hat{p}_i^2\right)^2\right]}{N}}$$ (Agresti and Agresti 1978).	$CI_{IQV} = IQV \pm Z_{\propto/2}(SE_{IQV})$, where " $Z_{\propto/2}$ is the Z value corresponding to the $\propto/2$ and $1 - \propto/2$ quantiles of the standard normal distribution" (Agresti and Agresti 1978: 212).
RQ Index	$\sigma_{RQ} = \sqrt{\mathbf{d'Vd}}$ The column vector **d** contains the derivatives of *RQ* with respect to each cell proportion, $p_{i.}$ and **V** is the variance-covariance matrix of the cell proportions, so that: $d_i = 4\left(2p_i - 3p_i^2\right)$ $V_{ij} = \frac{p_i p_j}{N}$ for $i \ne j$, and $V_{ij} = \frac{p_i\left(1 - p_i\right)}{N}$ for $i = j$ (Lacy 2017).	$CI_{RQ} = RQ \pm Z_{\propto/2}(SE_{RQ})$, where Z is the $\propto/2$ percentile point of the standard normal distribution (Lacy 2017).
IOV	$$SE_{IOV} = \sqrt{\frac{\frac{64\left[\sum_{i=1}^{k-1}p_i a_i^2 - \left(\sum_{i=1}^{k-1}p_i a_i\right)^2\right]}{N(k-1)^2}}{N}}$$ where $a_i = \frac{k-1}{2} + \sum_{j=i+1}^{k}(i-j)p_j$ (Blair and Lacy 2000: 265).	$CI_{IOV} = IOV \pm Z_{\propto/2}(SE_{IOV})$, where z is the $\propto/2$ percentile point of the standard normal distribution (Blair and Lacy 2000:265).

Table 2.11. Four hypothetical proportion distributions with *IQV*, *RQ Index*, *IOV*, and 95% confidence intervals for difference between distributions, N=1000.

Distribution	i=1 (p)	i=2 (p)	i=3 (p)	i=4 (p)	i=5 (p)	IQV (SE) [CI]	RQ Index (SE) [CI]	IOV (SE) [CI]
1	0.05	0.10	0.70	0.10	0.05	0.606 (0.022) [0.563, 0.649]	0.679 (0.013) [0.654, 0.744]	0.350 (0.016) [0.319, 0.381]
2	0.15	0.20	0.30	0.20	0.15	0.981 (0.005) [0.971, 0.991]	0.661 (0.005) [0.651, 0.671]	0.710 (0.013) [0.685, 0.736]
3	0.25	0.20	0.10	0.20	0.25	0.981 (0.004) [0.973, 0.989]	0.667 (0.005) [0.657, 0.677]	0.870 (0.008) [0.854, 0.886]
4	0.50	0.0	0.0	0.0	0.50	.625 (0.000) [0.625, 0.625]	1 (0.000) [1.0, 1.0]	1 (0.000) [1.0, 1.0]

In addition, for the reader that would like to closely compare the scores between variables or across time, it is possible to calculate a confidence interval for the difference in scores. The standard error of the differences also follows the customary formula for the square root of differences, the square root of the sum of each individual squared standard error:

$$SE_{diff} = \sqrt{SE_1^2 + SE_2^2}.$$

The formulas for confidence intervals of the difference can then be calculated using the standard formula:

$$CI_{diff} = (s_1 - s_2) \pm Z_{\propto^2} \left(\sqrt{SE_{s_1}^2 + SE_{s_2}^2} \right),$$

with *s* representing the sample statistic for the measure used. For example, to compare the *IOV* score in distribution 1 to distribution 4, the standard error of the difference is $\sqrt{0.0^2 + 0.016^2} = 0.016$. Therefore, the 95 percent confidence interval of the difference would be: $CI_{diff} = (1 - 0.35) \pm 1.96\,(0.016) = [0.619, 0.681]$, suggesting that with 95 percent confidence, the difference between the *IOV* score in distribution 1 and distribution 4 in Table 2.11 is between

0.62 and 0.68. The use of confidence intervals for each score and for the differences between scores will allow the inference of the findings from the sample data to the general population. In the next chapter, these measures will be used on a variety of items within the American National Election Studies and the General Social Survey to compare the findings of these measures with the analyses of categorical variables within the literature.

Chapter 3: Results and Discussion

In the last chapter, three measures of dispersion or bimodality for categorical variables were introduced, the Index of Qualitative Variation (*IQV*), the *RQ* index (*RQ*), and the Index of Ordinal Variation (*IOV*). Each of these measures has identical conceptualizations of minimal dispersion, with all responses located in one category, but each one defines maximal dispersion differently. For the *IQV*, it is a uniformly spread distribution, for the *RQ* index, responses divided equally between any two categories, and for the *IOV*, responses divided equally between the two most extreme categories. With an understanding of how each of these measures operate, this chapter applies these measures to variables within the "culture war" literature.

To accomplish this task, I drew key variables from the literature (DiMaggio et al. 1996; Abramowitz and Saunders 2008; Fiorina and Abrams 2008 and others) focusing on the most frequently used variables, and other items related to Hunter's (1991) original claims. I started by examining 200 variables from the American National Election Studies (ANES) and the General Social Survey (GSS), and then reduced this list to 120 variables[17], placing principal importance on items frequently included within the original "culture wars" and political polarization literature. I further reduced this list by excluding any binary items not central to the literature, as the measures introduced here do not provide any additional information to ordinary measures of central tendency. For organizational purposes, I divided these items into topical categories, including family and cultural values, the role of government, political party affiliation and ideology, international affairs and defense, education and science, the environment, crime and

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[17] A list of these 120 variables is included in the appendix on page 96.

justice, views of the poor and minorities, and views on economic inequality[18]. My purpose here

is to illustrate the methodological advantages of these measures for the questions examined in

this literature, and I will focus on the most frequently examined topic areas: Family and cultural

values, the role of government, and political party affiliation and ideology. This provides some

organization in a diverse literature, and allows for a clearer comparison to the findings of

previous contributors. Because each of these topical sections is relatively lengthy and contain

multiple items, I will summarize and discuss these findings after the results of each section are

presented. Following the presentation of these three most frequently examined categories, I will

discuss some of the other interesting findings from other sections.

Family and Cultural Values

As described before, Hunter (1991) believed issues surrounding the family and its

definition were central to the "culture wars." Within this topic area, he and others (e.g. DiMaggio

et al. 1996) particularly highlighted attitudes about homosexuality and abortion, with general but

not complete agreement that attitudes about abortion have become increasingly polarized. I have

selected several key variables for analysis here, with Table 3.1 providing the exact questions and

coding for each one[19]:

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[18] Many of these topic areas were first used by DiMaggio et al. (1996), while others, such as the role of government, were identified by contributors within the political polarization literature (e.g. Abramowitz and Saunders 2008; Fiorina and Abrams 2008)

[19] In addition, for each of the items listed, tables can be found in the appendix on page 101-109 that include the percentage distributions and polarization/dispersion indices for each item, including each year the item is available in the ANES or GSS.

Table 3.1. Family and Cultural Values Items Examined

#	Variable	Years	Variable Description	Response Categories
1	vcf0876a	1998-2012	Do you favor laws to protect homosexuals against job discrimination?	1. Strongly Favor, 2. Favor, 3. Neither, 4. Oppose, 5. Strongly Oppose
2	vcf0877a	1992-2012	Do you feel homosexuals should be allowed to serve in the U.S. Armed forces?	1. Strongly Allowed, 2. Allowed, 3. Neither, 4. Not Allowed, 5. Strongly Not Allowed
3	homosex	1973-2014	What do you think about sexual relations between two adults of the same sex?	1. Always wrong, 2. Almost always wrong, 3. Sometimes wrong, 4. Not wrong at all
4	marhomo	1988-2014	Do you agree or disagree? Homosexual couples should have the right to marry one another	1. Strongly agree, 2. Agree, 3. Neither, 4. Disagree, 5. Strongly disagree
5	vcf0878	1992-2012	Do you think gay or lesbian couples should be legally permitted to adopt children?	1. Yes, 2. Depends, 3. No
6	vcf0838	1980-2012	By law, when should abortion be allowed?	1. Never, 2. In case of rape, incest, danger to women's life 3. Other reasons but after need is clearly established, 4. Always
7	vcf0834	1972-2012	Some people feel that women should have an equal role with men in running business, industry and government, others' think their place is in the home, some are in the middle. Place yourself.	1. Women and men should have an equal role, 2., 3., 4., 5., 6., 7. Women's place is in the home
8	fefam	1977-2014	It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family	1. Strongly agree, 2. Agree, 3. Disagree, 4. Strongly disagree
9	hubbywrk	1988-2012	A husband's job is to earn money; a wife's job is to look after the home and family	1. Strongly agree, 2. Agree, 3. Neither, 4. Disagree, 5. Strongly disagree
10	fepol	1974-2014	Most men are better suited emotionally for politics than are most women.	1. Agree 2. Disagree
11	fehome	1974-1998	Women should take care of running their homes and leave running the country up to men.	1. Agree 2. Disagree
12	fepres	1972-2010	If your party nominated a woman for President, would you vote for her if she were qualified for the job?	1. Yes, 2. No
13	fechld	1977-2014	A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.	1. Strongly agree, 2. Agree, 3. Disagree, 4. Strongly disagree
14	famsuffr	1988-2012	Family life suffers when the woman has a full-time job	1. Strongly agree, 2. Agree, 3. Neither, 4. Disagree, 5. Strongly disagree
15	fepresch	1977-2014	A preschool child is likely to suffer if his or her mother works.	1. Strongly agree, 2. Agree, 3. Disagree, 4. Strongly disagree
16	meovrwrk	1994-2014	Family life often suffers because men concentrate too much on their work.	1. Strongly agree, 2. Agree, 3. Neither, 4. Disagree, 5. Strongly disagree

"Legitimate sexuality" or views on homosexuality

Five items from the ANES and GSS are discussed here concerning attitudes towards homosexuality. Some of these items are related to the civil rights of gay and lesbian individuals, and others to morality or the definition of the family. The first item (#1 in Table 3.1) asks respondents to rate their approval of anti-discrimination laws[20]. Figure 3.1 shows the time trend from 1988 to 2012 of the three polarization/dispersion indices. The Index of Ordinal Variation (*IOV*) for this clearly ordinal variable declined by 15 percent (0.86 to 0.74) over the entire period, indicating a clear decrease in cultural polarization on this topic. Table 3.2 below provides detail of the response distribution and corresponding index scores for the first and last year of
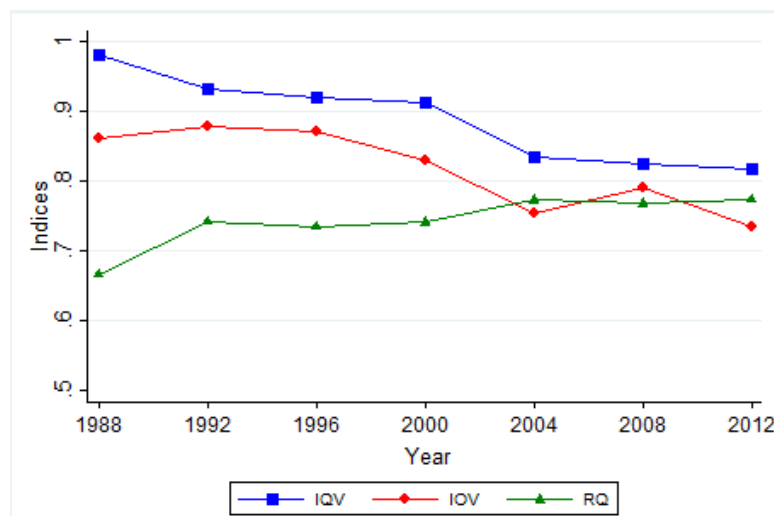
Figure 3.1. Trends in Polarization/Dispersion Indices for Views on Anti-Discrimination Laws, 1988-2012.

Table 3.2. Percentage Distribution and Polarization/Dispersion Indices for Views on Anti-Discrimination Laws in 1988 and 2012.

Year	Strongly	Favor	Neither	Oppose	Strongly	*IQV*	*RQ*	*IOV*
1988	23.5	24.2	12.3	14.3	25.7	0.98	0.67	0.86
2012	51.7	22.6	2.5	10.0	13.3	0.82	0.77	0.74

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[20] vcf0876a: Homosexual discrimination law (ANES) (e.g. Fiorina and Levendusky 2006; Baldassarri and Gelman 2008; Bafumi and Shapiro 2009; Fiorina et al. 2011)

the period, and shows a change from nearly half of the responses divided between the two most extreme categories in 1988, to over half of responses saying they "strongly favor" an anti-discrimination law. While the *IQV* and *RQ* index would not likely be preferred for an ordered variable like this, I include them here to highlight their individual sensitivities. Note that the *IQV* also decreased as responses shifted towards the first category. In contrast, the *RQ* index increased, but this shows the general undesirability of using this index with ordinal variables, as that change arose from the concentration of 74 percent of responses into the "Strongly Favor" and "Favor" categories in 2012, hardly an indication of polarization or dissensus. Another civil rights item (#2 in Table 3.1) asks respondents whether they support allowing gay individuals to serve in the military.[21] Figure 3.2 shows a large decrease in the *IOV* (0.91 to 0.57, 37%) over the 1992- 2012 period. Thus, in contrast to previous literature, my finding for these items about homosexuality showed decreased polarization.
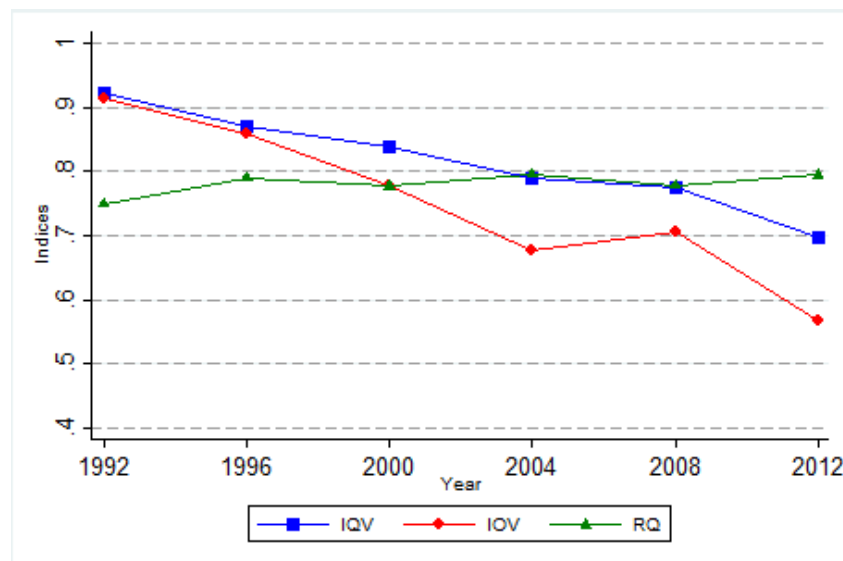
Figure 3.2. Trends in Polarization/Dispersion Indices for Support of Gays in Military, 1992-2012.

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[21] vcf0877a: Should gays be allowed in the military (ANES) (e.g. Fiorina and Levendusky 2006; Baldassarri and Gelman 2008; Fiorina et al. 2011)

I find different results for items related to the *morality* of homosexuality. One such item (#3 in Table 3.1) used by DiMaggio et al. (1996) and others asks respondents whether homosexuality is "wrong."[22] In Figure 3.3, this item shows dramatic *increases* in polarization for all indices, with the *IOV* increasing 66 percent from 0.59 in 1972 to a near maximum of 0.98 in 2014.
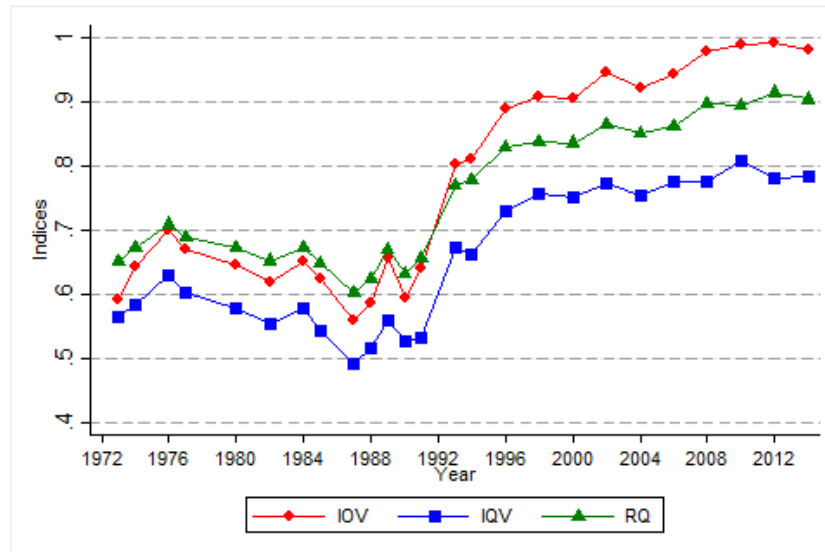
Figure 3.3. Trends in Polarization/Dispersion Indices for Views on the Morality of Homosexuality, 1972-2014.

In addition to the morality of homosexuality, contributors have examined variables related to homosexuality and the definition of the family (e.g. Fiorina and Levendusky 2006; Abramowitz and Saunders 2008). Figure 3.4 shows trends in polarization of opinion on gay marriage,[23] where the *IOV* increased by 42%, (0.59 to 0.84) over the 26-year period. Another item related to homosexuality and the definition of the family asks respondents whether they think gay and lesbian couples should be allowed to adopt children[24], and as shown in Figure 3.5,

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[22] homosex: Is homosexuality wrong? (GSS) (e.g. Fiorina and Levendusky 2006; Baldassarri and Gelman 2008; Fiorina et al. 2011)

[23] marhomo: Gay marriage (GSS) (e.g. Abramowitz and Saunders 2008; Fiorina et al. 2011)

[24] vcf0878: Gay adoption (ANES) (e.g. Fiorina and Levendusky 2006; Fiorina et al. 2011)

the *IOV* increased 16 percent (0.82 to 0.95) between 1992 and 2012. While this is a smaller increase, note, however, that polarization was high even in 1992 so that there is little room for increase of this item. Thus, in line with the findings of most previous contributors, these items focused more on morality and the family, as opposed to civil rights, do show increases in polarization.
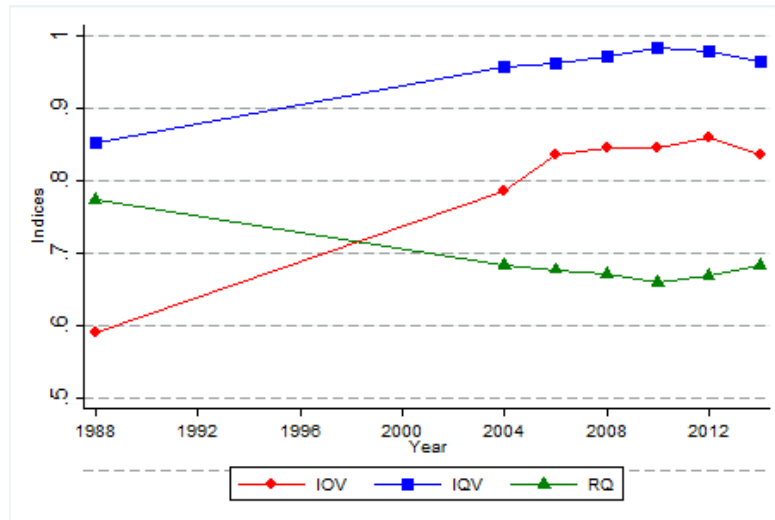
Figure 3.4. Trends in Polarization/Dispersion Indices for Views on Gay Marriage, 1988-2014.
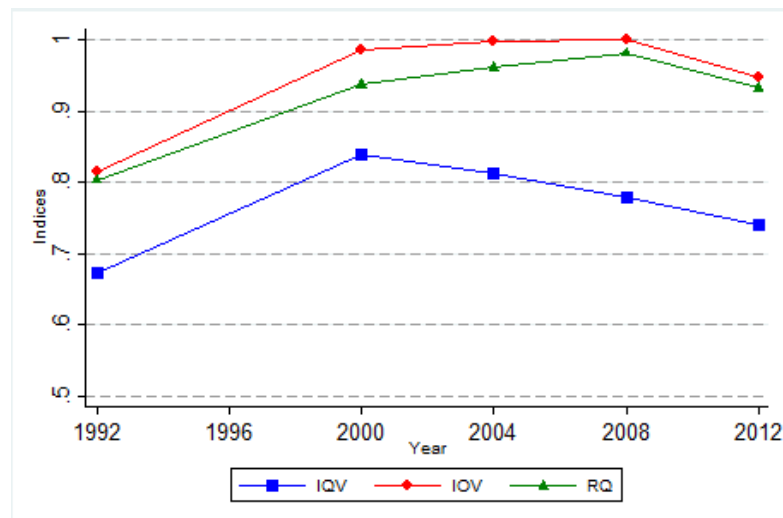
Figure 3.5. Trends in Polarization/Dispersion Indices for Views on Allowing Gay/Lesbian Couples to Adopt, 1992-2012.

Abortion views

Abortion is the second key topic among family issues, and most scholars agree polarization has increased for this issue (e.g. DiMaggio et al. 1996; Baldassarri and Gelman 2008; Abramowitz and Saunders 2008). Some of the commonly studied abortion items in the literature are binary[25] (yes/no) for which the indices introduced here are not useful, as they do not provide additional information to commonly used measures of central tendency. I have chosen instead to focus on a commonly used multi-category item from the ANES (#6 in Table 3.1), which asks respondents under what circumstance abortion should be allowed by law[26]. Trends in polarization for this item are illustrated in Figure 3.6 below. Regarding this item first as ordinal, I note no monotonic trend in the *IOV* (Figure 3.6), but rather a consistently high level of polarization, with a small dip in the 1990s decade. But we might also plausibly treat this item as nominal, since the response categories are not unequivocally ordered. On that view, note that
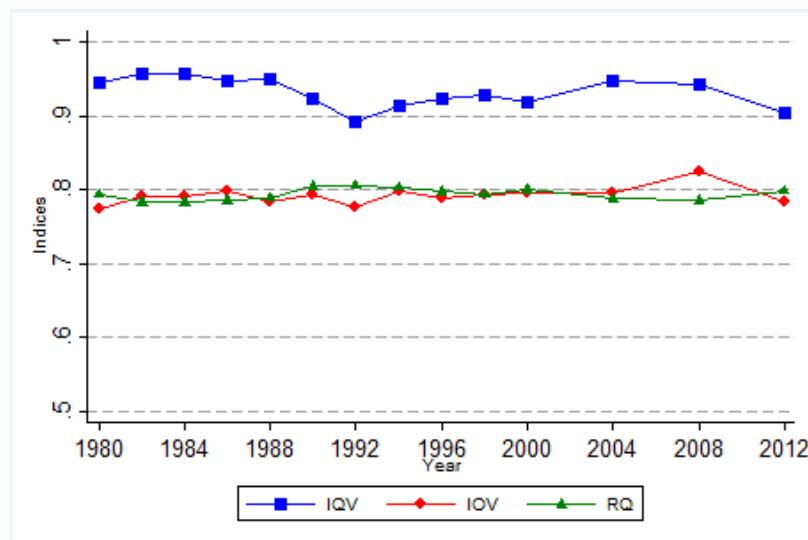
Figure 3.6. Trends in Polarization/Dispersion Indices for Views on Abortion, 1980-2012.

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[25] abany, abdefect, abnomore ,abpoor, abhlth, abrape, absingle, (GSS) (e.g. DiMaggio et al. 1996)
[26] vcf0838: When should abortion be allowed, by law? (ANES) (e.g. DiMaggio et al. 1996; Fiorina and Levendusky 2006; Baldassari and Gelman 2008; Fiorina and Abrams 2008; Abramowitz and Saunders 2008; Fiorina et al. 2011)

neither the *RQ* index nor the *IQV* shows any dramatic change over time in bimodal polarization or dispersion. In summary, my findings with these indices differ from the common view that polarization around abortion has increased.

Views of gender roles

    While I will not treat in detail all variables related to "the family," I have included several attitude items related to gender roles that are prominent in the literature, and which gave methodologically interesting results. A common item (#7 in Table 3.1) from the ANES concerns whether women should have an equal role to men or if a woman's place is in the home[27]. All indices for this item, as shown in Figure 3.7, experienced substantial decreases in polarization, with a 49 percent decrease (0.85 to 0.43) in the *IOV*. However, this item is of methodological
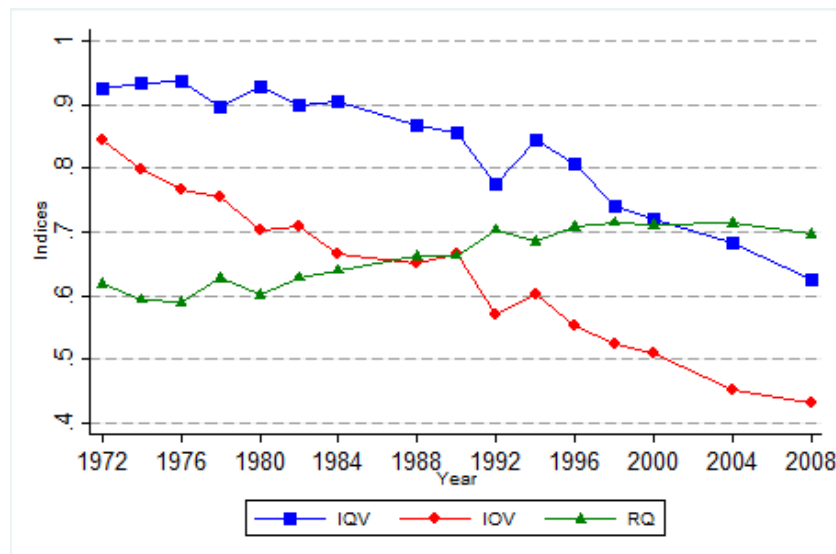
Figure 3.7. Trends in Polarization/Dispersion Indices for Women's Equal Role, 1972-2008.

interest because it shows differences among the indices used here. As shown below in Table 3.3, between 1972 and 2008, responses shifted from three popular categories (1, 4, and 7), to having well over half of responses located in just the first category. The *IOV* decreased substantially as

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[27] vcf0834: Women's Equal Role (ANES) (e.g. DiMaggio et al. 1996; Fiorina and Levendusky 2006; Baldassarri and Gelman 2008; Fiorina et al. 2011)

the responses shifted out of the extreme, "in the home," but the *IQV* decreased as responses became less uniformly distributed. In contrast to the *IQV* and *IOV*, the *RQ* index had increased slightly by 2008, responding to the presence of nearly 80 percent of responses in two categories.

Table 3.3. Percentage Distribution and Polarization/Dispersion Indices for Women's Equal Role Item in 1972 and 2008.

Year	Equal Role	2	3	4	5	6	In the home	IQV	RQ	IOV
1972	32.7	9.3	6.9	20.4	6.3	4.6	19.7	0.9251	0.6177	0.8456
2008	66.0	13.6	5.2	7.4	3.7	1.9	2.2	0.6241	0.6957	0.4304

While this ANES item is the most frequently examined gender item within the "culture wars" literature, examining related items provides conflicting evidence of polarization related to gender issues. An item closely related to the one presented above (#8 in Table 3.1) contains slightly different wording, asking respondents if they believe "it is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family"[28], and polarization *increased* for this item by 2 percent between 1977 and 2014. Another item (#9 in Table 3.1) asked if it is "a husband's job is to earn money" and "a wife's job is to look after the home and family,"[29] and increased by 2 percent between 1988 and 2008. These small increases are not substantively significant, but compared to related items that experienced substantial decreases in polarization, this points to the importance of the wording of items, suggesting that changes in polarization may be the result of subtle changes in meaning.

For "public gender" issues, as identified by DiMaggio et al. (1996), such as items that ask participants whether women are suited for politics, whether they should stay at home vs. run the country, and whether the participant would vote for a women president[30] (#10, 11, and 12 in

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[28] fefam (GSS) (e.g. DiMaggio et al. 1996, Alwin and Tufis 2016)
[29] hubbywrk (GSS) (e.g. Alwin and Tufis 2016)
[30] fepol, fehome, fepres (GSS) (e.g. DiMaggio et al. 1996; Alwin and Tufis 2016)

Table 3.1), polarization of each of these variables has decreased greatly, by 41 percent, 43 percent, and 80 percent respectively. Similarly, polarization of "private" gender issues also decreased overall, including items that ask if the family suffers, if preschoolers suffer, or if children are hurt when mothers' work[31], (#13, 14, 15 in Table 3.1) experiencing decreases in polarization of 6 percent, 6 percent, and 17 percent respectively. The only substantial increase in polarization related to gender issues was interestingly an item related to the role of men in the family. The item asked respondents if men hurt their family when they work too much (#16 in Table 3.1), and polarization for this item increased by 19 percent[32].

Discussion of Views on Family and Cultural Values

Overall, my key findings here are that for issues related to homosexuality, trends in polarization differ between items related to the role of gay and lesbian individuals within the public and items related to the institution of the family. For items that asked respondents their views on anti-discrimination laws or gays being allowed in the military, polarization decreased, but for items that asked about the morality of homosexuality, gay marriage, and gay adoption, polarization increased during the same time period, with each of these items having an *IOV* score near 1.0, representing maximal dispersion. In contrast, the results for polarization of abortion views are less dramatic, with a 1 percent increase in polarization over time, which is both substantially and statistically insignificant. For issues related to gender, overall there was a substantial decrease in polarization, with a few exceptions for specific items.

Comparing these findings to the larger body of literature is somewhat indirect as measures of dispersion and bimodality are not used frequently within the literature, even though these are the only conceptualizations of polarization that are agreed upon (Fiorina et al. 2008).

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[31] fechld, famsuffr, fepresch (GSS) (e.g. Alwin and Tufis 2016)
[32] meovrwk: Men hurt family when work too much (GSS)

Therefore, I will make comparison to those contributors that do include measures of dispersion and bimodality, as well as the overall trends in shifts of other definitions of polarization.

My findings only partly support those of Hunter (1991) and DiMaggio et al. (1996). While I found that polarization of issues about homosexuality is dependent on whether the issue is related to the family or broader civil rights issues, Hunter (1991) seemed to argue that both are becoming increasingly divisive, as he claimed that other than abortion, there were no issues as divisive as "homosexuality" and "gay rights". I find that this is true for issues related to morality and the family as polarization increased greatly, and this finding supports Hunter's (1991) claims that defining the family is an important aspect of the "culture wars." In contrast, I found that consensus on the civic roles of gay individuals had increased substantially. Hunter (1991: 189) previously argued that there had been increasing "hostility to gay rights activism," yet my findings do not support this claim. DiMaggio et al. (1996) also included views of the morality of homosexuality in their analysis, but instead of examining each item independently, they created a scale combining several items related to "sexual morality," including the morality of homosexuality and views on extramarital and premarital sex. While I found a substantial increase in polarization on the morality of homosexuality, DiMaggio et al. (1996) found no evidence of polarization for this scale. Creating these scales allows contributors to use interval level measures on these items, but note here that combining items with differing trends of polarization into one scale variable results in the loss of specificity, and leads DiMaggio et al. (1996) to miss significant shifts in polarization of specific items. My more detailed analysis of treating each item individually shows that polarization trends may be up, down or stable depending on which particular item within a topic area is being examined. Abramowitz and Saunders (2008) used similar methods, combining 7 unrelated items (such as views on gay marriage, the environment,

the role of government, etc.) to attempt to capture polarization of multiple items with one measure (Abramowitz and Saunders 2006; 2008). They found increasing polarization overall, yet their findings cannot speak specifically to the issue of homosexuality.

Turning to the issue of abortion, I did not find any substantially or statistically significant changes in views on abortion. Hunter (1991: 176) considered abortion the "divisive battlefield," yet the item included here is surprisingly stable overtime. Most other contributors used other definitions of polarization, finding that social locations (political identification, political ideology, gender, etc.) were becoming more accurate predictors of abortion views, and increasing correlation between attitudes on abortion and attitudes for other "unrelated issues," such as attitudes about the environment, foreign affairs, etc. (DiMaggio et al. 1996; Fiorina and Levendusky 2006; Fiorina and Abrams 2008; Baldassari and Gelman 2008; Alwin and Tufis 2016).

Of the many articles discussing polarization of abortion attitudes, two contributors included measures of dispersion or bimodality in their analysis of attitudes on abortion. DiMaggio et al. (1996) included measures of dispersion (variances) and bimodality (kurtosis), finding increasing polarization of abortion attitudes with both measures. Fiorina and Abrams (2008:573) examined the bimodality of views on abortion by calculating the percentage change between 1984 and 2004 of each response category for the ordered item examined here, finding "virtually no change in popular opinion." While my findings on polarization of abortion attitudes mirror the findings of Fiorina and Abrams (2008), we will soon see that other items examined here differ from the findings of Fiorina and Abrams (2008) using this same measure of bimodality.

For issues related to gender, most contributors only examine one item. This item is shown in Figure 3.7 and asks respondents if women should have an equal role or should stay at home, and here a substantial decrease in polarization was found. This confirms the findings of others, such as Fiorina and Levendusky (2006), who examined differences between Republicans and Democrats on this issue and found increasing consensus. DiMaggio et al. (1996) used measures of dispersion and bimodality (variances and kurtosis), yet combined this item with other items to create a "public women's roles" and a "family gender roles" scale. DiMaggio et al. (1996) found that polarization of both had decreased. While an overall decrease in polarization was also found here, finding that several items drastically decreased, others remained stable, and one increased, highlights the advantage of examining variables independently.

Views on Appropriate Role of Government

Having finished coverage of "family" topics, I turn now to another central area within the literature, attitudes about the appropriate role of government. These items are described below in Table 3.4[33]. Among the dozens of relevant items in the ANES and GSS, three variables have been the most common in the polarization literature, with contributors divided on whether polarization of these issues have increased. These items concern respondents' views on whether the government should guarantee jobs, whether they prefer less governmental spending and services, and whether they prefer private or government health care. Figure 3.8 shows results for the first item (#1 in Table 3.4), which asks if the federal government should see to it that everyone has a job and a good standard of living[34]. No substantial change in polarization

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[33] Percentage distribution tables with the corresponding polarization/dispersion indices for each year the item is available are listed in the appendix on page 110-111.
[34] vcf0809: Guaranteed Jobs/Standard of Living (ANES) (e.g. Abramowitz and Saunders 2005, 2006, 2008; Abramowitz 2006; Fiorina and Levendusky 2006; Baldassarri and Gelman 2008; Fiorina and Abrams 2008)

Table 3.4. Items Discussed Related to the Appropriate Role of Government.

#	Variable	Years	Variable Description	Possible Responses
1	vcf0809	1972-2012	Some people feel that the government in Washington should see to it that every person has a job and a good standard of living. Where would you place yourself?	1. Government see to job and good standard of living 2., 3., 4., 5., 6., 7. Government let each person get ahead on his own
2	vcf0839	1982-2012	Some people think the government should provide fewer services in order to reduce spending. Other people feel that it is important for the government to provide many more services even if it means an increase in spending.	1. Government should provide many fewer services: reduce spending a lot, 2., 3., 4., 5., 6., 7. Government should provide many more services: increase spending a lot.
3	vcf0806	1970-2012	Some feel there should be a government insurance plan which would cover all medical and hospital expenses, others feel medical expenses should be paid by individuals, and through private insurance	1. Government Insurance Plan, 2., 3., 4., 5., 6., 7. Private Insurance Plan

occurred between 1972 and 2012, with the *IOV* decreasing by 9 percent (0.76 to 0.70) over the 40-year period. The *IQV* stayed consistently high, demonstrating that views on this item are dispersed uniformly, and the *RQ* index shows no increases in bimodality for any 2 categories.
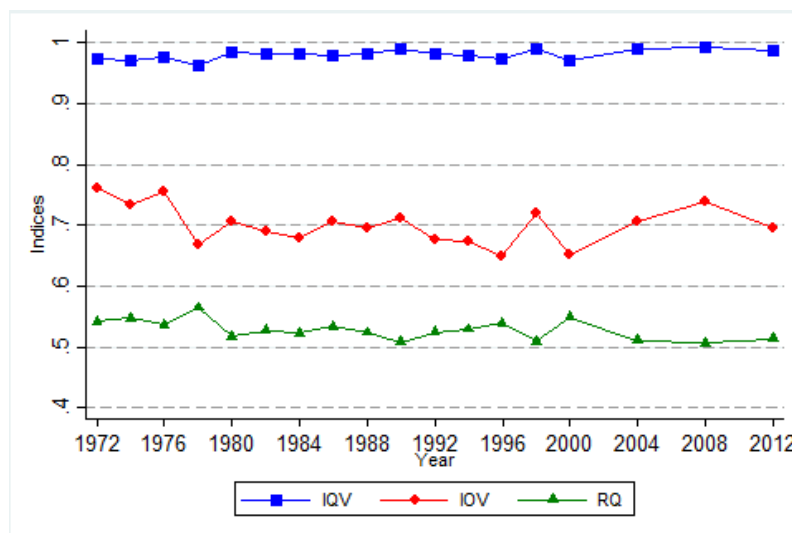
Figure 3.8. Trends in Polarization/Dispersion Indices for Views on Guaranteed Jobs, 1972-2012.

Another item (#2 in Table 3.4) asks respondents if the government should provide fewer services to reduce governmental spending[35]. As shown in Figure 3.9, results for this item are equally underwhelming, as there are small increases and decreases in the *IOV* over time, yet levels of polarization are stable between 1982 and 2012, as the decrease from 0.64 to 0.62 is not substantively or statistically significant.
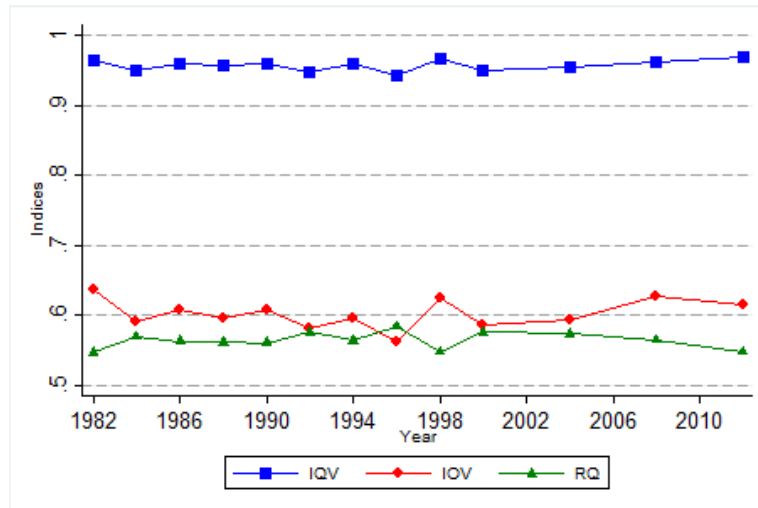
Figure 3.9. Trends in Polarization/Dispersion Indices for Views on Government Spending vs. Services, 1982-2012.

A third item used frequently within the literature (#3 in Table 3.4) asks respondents whether they would prefer a government or private health insurance plan[36], and as shown in Figure 3.10, polarization has decreased moderately over this 42-year period. Between 1970 and 2012, the item experienced a 16 percent decrease in the *IOV*, from 0.89 to 0.75[37].

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[35] vcf0839: Spending vs. Services (ANES) (e.g. Abramowitz 2006; Fiorina and Levendusky 2006; Abramowitz and Saunders 2008; Fiorina and Abrams 2008; Fiorina et al. 2011)

[36] vcf0806: Government vs. Private Health Insurance (ANES) (e.g. Abramowitz and Saunders 2005, 2008; Abramowitz 2006; Fiorina and Levendusky 2006; Baldassarri and Gelman 2008; Fiorina and Abrams 2008)

[37] I would like to add that for this healthcare item drawn from the literature, we did not see increasing polarization, but a similar item I examined that ask respondent's their view more broadly on healthcare expenditure (natheal: GSS), did experience increases in polarization during the same time.
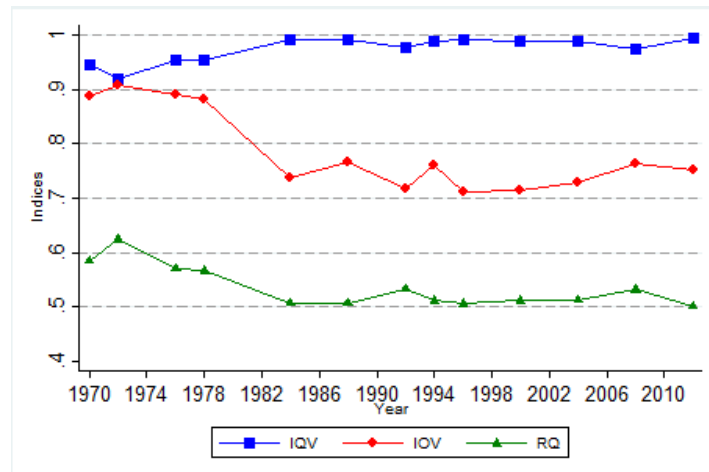
Figure 3.10. Trends in Polarization/Dispersion Indices for Views on Government vs. Private Health Insurance, 1970-2012.

Discussion of Views on the Appropriate Role of Government

As shown above, for the items related to the role of the government that are examined most frequently within the literature, I found little to no evidence of increasing polarization within the public overall. Next, I'd like to compare these findings to those within the literature. For the first item, which asks respondents whether the government should guarantee a job and good standard of living, a small (9 percent) decrease in polarization was found using the measures introduced here. Other contributors found increases in the ability of a person's political party identification to predict views of this item, and found increases in the correlation between this item and other cultural and/or political attitudes, but did not examine changes in dispersion or bimodality for these items (Abramowitz and Saunders 2005, 2006, 2008; Abramowitz 2006; Fiorina and Levendusky 2006; Baldassarri and Gelman 2008).

Fiorina and Abrams (2008), using again a purported measure of bimodality based on calculating the percent change for each response category between two of the available years (1984 and 2004), found that this was the only of 5 examined items (including the other two items used in this section) to experience an increase in polarization, a rare occasion of consensus

65

between previous contributors on the presence of polarization. Here is a place where my

findings, contrast directly with other contributors, as I found a small but statistically significant

decrease in polarization for this item. To examine this difference in results more closely, Table

3.5 shows the percentage distribution and corresponding indices for 1984 and 2004, the only two

years examined by Fiorina and Abrams (2008). As illustrated, including only 2 of the 18 years

this item has been included in the ANES, does not provide an accurate assessment of changing

levels of polarization within the public overtime[38].

Table 3.5. Percentage Distribution and Polarization/Dispersion for Views on Guaranteed Jobs in
1984 and 2004.

Year	Govt see to it	2	3	4	5	6	Persons on their own	*IQV*	*RQ*	*IOV*
1984	12.0	8.5	13.0	22.7	18.9	14.7	10.3	0.98	0.52	0.68
2004	12.2	8.3	13.1	20.4	17.1	16.2	12.6	0.99	0.51	0.71

As documented by Fiorina and Abrams (2008), there was a two percent decrease in the

number of respondents in the middle category, and an increase of 2 percent in one of the extreme

categories (persons on their own). While Fiorina and Abrams (2008) are careful not to overstate

the significance of this finding, using an index such as the *IOV* is advantageous, as it allows the

quantification of this increase, which amounts to only a 4 percent increase in polarization

between these two years. In addition, because these indices have standard errors we can easily

calculate confidence intervals, which is of particular relevance here, because this 4 percent

increase between 1984 and 2004 is not significant at a 95% confidence level[39]. By using the *IOV*,

we can see that the increase documented by Fiorina and Abrams (2008) is not of substantive or

statistical significance. In contrast, my finding here of a 9 percent decrease between 1972 and

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[38] While I found a 9 percent decrease between 1972 and 2012, using the years that were available to Fiorina and
Abrams (2008), there was a 7 percent decrease in the *IOV* between 1972 and 2004.
[39] The 95% confidence intervals for each year overlap (1984: 0.660, 0.695) (2004: 0.6825, 0.7279)

2012 is statistically significant using a 95% confidence level[40]. It is understandable that Fiorina

and Abrams (2008) only included two years in their analysis, as analyzing the percent change of

each category for each year the item is available would be laborious, yet by choosing only two

years to included, they did not capture the overall trend for this item which has decreased during

the entire 40-year period. Furthermore, because these indices are easily calculated by hand, and

can be automatically calculated using programs such as Stata, this is no need to resort to the type

of comparison used by Fiorina and Abrams (2008).

For the next two items drawn from the literature (services vs. spending and government

vs. private health insurance), I also found no evidence of increasing polarization. This echoes the

findings of Fiorina and Abrams (2008), who also found no increasing polarization of these items

using the bimodality measure discussed above. Other contributors did not examine dispersion or

bimodality of these items, but found evidence of increasing polarization using other definitions

of polarization (such as the ability of political party identification to predict views on these items,

or an increase in the correlation between these items and other cultural or political items)

(Fiorina and Levendusky 2006; Abramowitz and Saunders 2005, 2008; Baldassarri and Gelman

2008).

Political Party Affiliation, Political Ideology, Presidential Approval, and Political Values

As discussed in the previous sections, very few instances of substantial increases in

polarization have been found using some of the most frequently analyzed items from the

literature. As discussed in Chapter 1, the conceptual divide between cultural and political

polarization scholars relates to what can be defined as polarized, with some (Fiorina and

Levendusky 2006; Fiorina and Abrams 2008; Fiorina et al. 2008, 2011) arguing that increases

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[40] The 95% confidence intervals for each year do not overlap (1972: 0.7787, 0.8117) (2012: 0.6857, 0.7061)

in X-Y and Y-Y correlations are evidence of "party sorting," not polarization. Fiorina et al. (2011:61) define party sorting as "increasing *partisan* polarization in the absence of *popular* polarization," as party affiliates are more likely to identify with the "ideologically correct party," largely due to the clearer choices provided by the polarization of elected officials and party activists. Because the Fiorina camp's criticism of Abramowitz and Saunders (2005, 2008) and others hinges on this idea of "party sorting," next I will examine potential shifts in dispersion and bimodality of political party affiliation and political ideology.

For these items, previous attempts to measure dispersion or bimodality documented changes in the standard deviations or variances of items that ask participants their political party identification or where they fall on a 7-point scale ranging from extremely liberal to extremely conservative. Others have looked for a decrease in the number of individuals who identify as independents or moderates, with some examining changes in the number of "true" moderates, and others combining moderates with those who identify as "moderate, near Democrat", and "moderate, near Republican" (Abramowitz and Saunders 2008; Bafumi and Shapiro 2009; Alwin and Tufis 2016). Here, I will examine these items, shown in Table 3.6, using measures that more directly capture changes in dispersion and bimodality of categorical variables[41].

One such item (#1 in Table 3.6) asks with which political party respondents identify[42]. As shown in Figure 3.11, there is little movement in polarization for political party identification between 1972 and 2014. The overall change in *IOV* between 1972 and 2014 is around 1 percent, and even if comparing the low and high points over time, the trends are not particularly impressive. The *RQ* index is also decreasing, meaning that the concentration of responses into

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[41] Percentage distribution tables with the corresponding polarization/dispersion indices for each year the item is available are listed in the appendix on pages 112-117.

[42] partyid: political party identification (GSS) (e.g. DiMaggio et al. 1996; Abramowitz and Saunders 2008; Fiorina et al. 2011)

Table 3.6. Items Discussed Related to Political Affiliation, Ideology, Presidential Approval and Political Values.

#	Variable	Years	Variable Description	Responses
1	partyid	1972-2014	Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or what?	1. Strong Democrat, 2. Not Strong Democrat, 3. Independent- near Democrat 4. Independent, 5. Independent- near Republican, 6. Not Strong Republican, 7. Strong Republican
2	vcf0301	1952-2012	Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?	1. Strong Democrat, 2. Weak Democrat, 3. Independent- Democrat 4. Independent, 5. Independent- Republican, 6. Weak Republican, 7. Strong Republican
3	polviews	1974-2014	I'm going to show you a seven-point scale on which the political views that people might hold are arranged from extremely liberal--point 1--to extremely conservative--point 7	1. Extremely Liberal, 2. Liberal, 3. Slightly Liberal, 4. Moderate 5., Slightly Conservative, 6. Conservative, 7. Extremely Conservative
4	vcf0803	1972-2012	When it comes to politics, do you usually think of yourself as extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, extremely conservative?	1. Extremely Liberal, 2. Liberal, 3. Slightly Liberal, 4. Middle of the Road, 5., Slightly Conservative, 6. Conservative, 7. Extremely Conservative
5	vcf0875	1960-2000	What is the Most Important National Problem	1.Agriculture, 2. Economy, 3. Foreign, 4. Defense, 5. Government Function, 6. Labor, 7. Natural Resources, 8. Public Order, 9. Racial Problems, 10. Welfare
6	vcf9019	1972-1992	Which goal seems most desirable for the nation?	1. Order, 2. Power of People, 3. Fight rising prices, 4. Protect Free Speech
7	vcf0451	1980-2012	Do you approve or disapprove of the way that [the president] is handling his job as President? Strongly or not strongly?	1. Approve strongly, 2. Approve not strongly, 3. Disapprove not strongly, Disapprove Strongly

two categories regardless of placement is decreasing[43]. The *IQV* is consistently high for this item, and while with some items, a uniform spread of responses would be rightfully considered polarized, for this item, where polarization is typically thought of as a bimodal party distribution, it would not be accurate to say that polarization of political party identification is increasing.
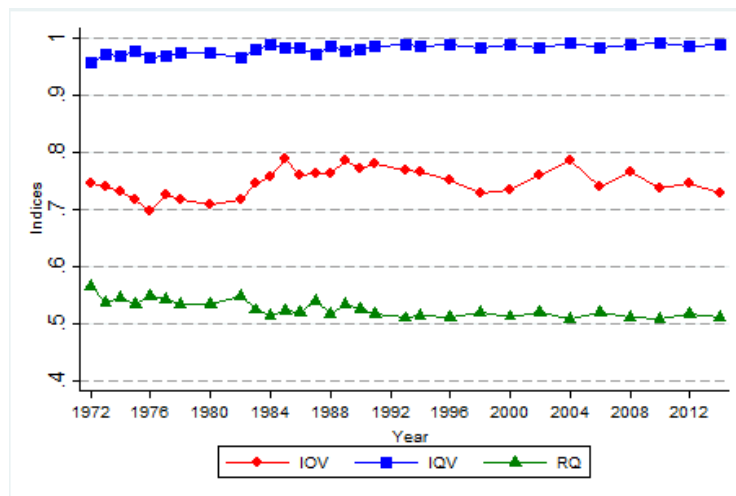
Figure 3.11. Trends in Polarization/Dispersion Indices for Political Party Identification (GSS), 1972-2014.

The ANES version of this item (#2 in Table 3.6)[44], asks participants about their political affiliation, but since the ANES has included this item since 1952, it provides a different view of polarization trends. As shown in Figure 3.12, between 1952 and 1978, polarization was decreasing (*IOV*) as the number of independents was increasing. During this 26-year period, there was a 13 percent decrease in polarization. After 1978, polarization began increasing slowly, with a 13 percent increase between 1978 and 2012. Examining this larger period of time shows that while there has been a moderate increase in party identification polarization since the 1970's, we are just now approaching the levels of polarization seen in the 1950's.

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[43] There are circumstances where the IOV might decrease while the RQ increases that we could consider increasing polarization of this ordered item, such as if some responses moved out of the most extreme categories, but overall responses became more concentrated into the "Republican" and "Democrat" categories.
[44] vcf0301: political party affiliation, 7 category (ANES) (e.g. DiMaggio et al. 1996; Abramowitz and Saunders 2008; Fiorina et al. 2011)
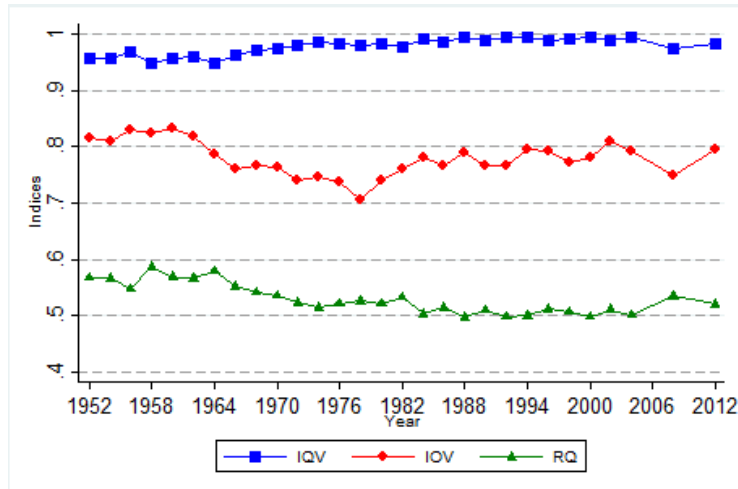
Figure 3.12. Trends in Polarization/Dispersion Indices for Political Party Affiliation (ANES), 1952-2012.

Political ideology

Related to political party identification, many contributors examine polarization trends in political ideology. To examine if the electorate is becoming more polarized ideologically, the *IOV* and *RQ* index can be used to examine if political ideology is becoming increasingly bimodal. One item (#3 in Table 3.6) asks respondents to identify where they stand ideologically between extremely liberal to extremely conservative[45]. Figure 3.13 illustrates the slight increase in polarization (*IOV*) for this item between 1974 and 2014. While there has been a 10 percent increase in polarization (0.48 to 0.52), with an *IOV* score of 0.52 in 2014, political ideology is not very polarized at any point in time.

Table 3.7 provides a closer look at the shift occurring between the first and last year this political ideology item is available from the General Social Survey. As shown here, the distribution is far from bimodal, with 40 percent of respondents considering themselves

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[45] polviews (GSS) (e.g. DiMaggio et al. 1996; Bafumi and Shapiro 2009; Alwin and Tufis 2016).
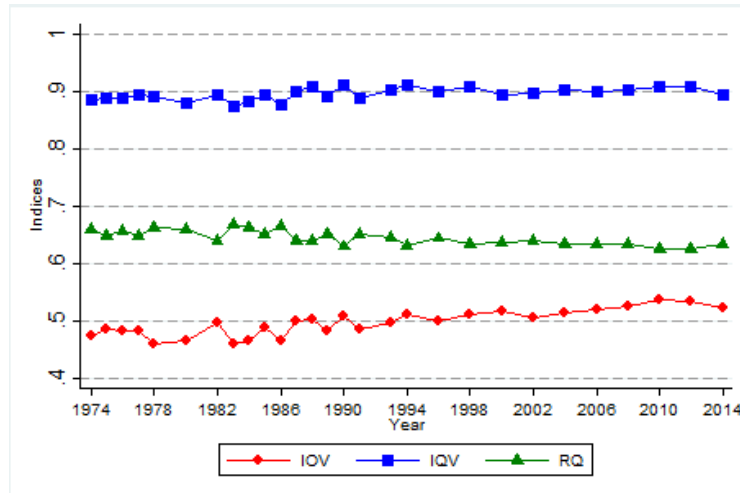
Figure 3.13. Trends in Polarization/Dispersion Indices for Political Ideology (GSS), 1974-2014.

moderates in both 1974 and 2014. The *IOV* increases as the number of individuals within the 2

most extreme categories (extremely liberal or extremely conservative) increases, yet the

percentage of respondents within each of these categories is still small, 3.84 and 4.37 percent

respectively. Comparing the ANES[46] political ideology item (#4 in Table 3.6), Figure 3.14 shows

a slightly larger increase in the *IOV* for ideological polarization. This similarly worded item

shows a 16 percent increase in the *IOV*, as the number of moderates for this item decreased

between 1972 and 2012 from 37 percent to 24 percent, and the number of respondents who

identified themselves as extremely or moderately ideological also increased, by about 2

percentage points each. While there has been a small increase, as Figure 3.14 illustrates, the *IOV*

is not near its maximum, and the *IQV* is consistently high as respondents are dispersed between

all 7 categories.

Table 3.7. Percentage Distribution and Polarization/Dispersion Indices of Political Ideology
(GSS) in 1974 and 2014.

Year	Extr Lib	Lib	Slight Lib	Mod	Slight Con	Con	Extr Con	*IQV*	*RQ*	*IOV*
1974	1.6	14.3	14.7	40.0	15.7	11.4	2.5	0.89	0.66	0.48
2014	3.8	12.4	10.7	40.4	13.6	14.6	4.4	0.89	0.63	0.52

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[46] vcf0803: political ideology, 7 categories from extremely liberal to extremely conservative (ANES)
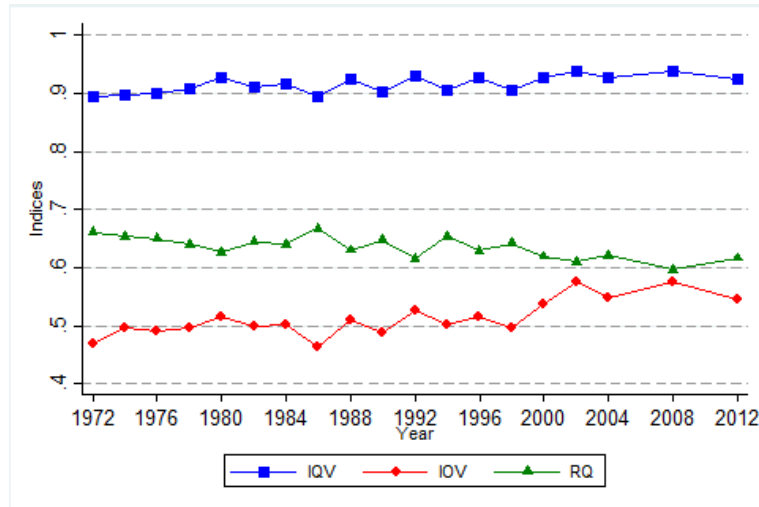
Figure 3.14. Trends in Polarization/Dispersion Indices for Political Ideology (ANES), 1972-2012.

Discussion of Political Party Affiliation and Political Ideology

As discussed above, previous claims of increasingly polarization of political party affiliation/identification are not substantiated using these indices. The General Social Survey item experienced a 1 percent increase in polarization, a finding that is not substantially or statistically significant, and the ANES item which provided a longer range of study showed that while polarization has increased slightly since the 1970's, it has not reached the levels of polarization found in the 1950's, long before the claims of a "culture war". An interesting thought to consider here, is while Fiorina et al. (2011) claims that increasing partisan polarization without increasing popular polarization is evidence of party sorting, no guidance is given on how to conceptualize small increases (and decreases) in popular polarization on a few individual items that is not also accompanied by increasing dispersion or bimodality of political party preferences. Polarization of political ideology has increased slightly, but a 10 to 16 percent increase over a 40-year period without increasing popular polarization and a consistently low *IOV* score does not seem to substantiate claims for a polarized public.

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Political values

Thus far, all of the items discussed here have been ordered, dictating the use of the *IOV*. Most of these items drawn from the literature (95 of the 120 items) are ordered, with almost all of the non-ordered items being binary, which do not necessitate the use of the measures introduced here. To highlight potential uses for the non-ordered measures introduced here, the *IQV* and the *RQ* index, I have included two additional variables related to political values that are not typically included within the literature. These items ask respondents what they believe is the nation's biggest problem, and what is the most desirable value of a nation.

The first item discussed here, asks respondents the nation's most important problem (#5 in Table 3.6). Polarization of this item could be seen conceptually in a variety of ways because of the unique focus of this item. First, if we were experiencing a true "culture war," we might expect to see two competing groups with different ideas of what is the most important problem for the nation (maximal dispersion for the *RQ* index). We might also expect to see a uniform distribution, where individuals are divided between all possible problems (maximal dispersion for the *IQV*). In addition, we might expect to see a minimally dispersed distribution, which all respondents located within one category, such as defense, but with respondents possibly holding different views of how to solve that problem. Regardless, we would expect to see a consistent trend in the distribution, with the *IQV* or *RQ* index increasing or decreasing steadily. As shown in Figure 3.15, there are no consistent time trends for this item, as the response distribution of this item varies greatly from year to year.

Another item asks participants the most desirable value for a nation (#6 in Table 3.6). Here we would expect polarization to occur with either a bimodal (*RQ*) or a uniformly dispersed (*IQV*) distribution. As shown in Figure 3.16, there is very little movement from year to year, with
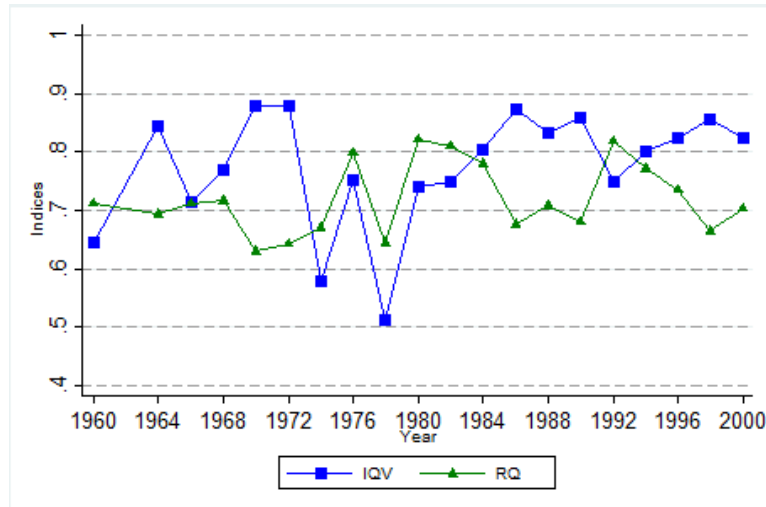
Figure 3.15. Trends in Polarization/Dispersion Indices for The Nation's Most Important Problem, 1960-2000.

no noticeable increases or decreases overtime. The *IQV* is consistently high, showing that there is

a relatively uniform spread in the distribution, and while this may have consequences for the

ability to reach common ground, this is not a recent development, and the public has been

divided on this issue since the item was first included in the ANES in 1972.
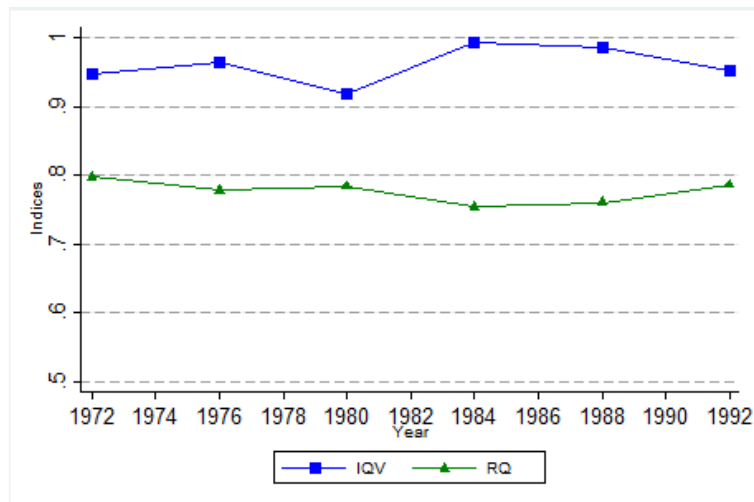
Figure 3.16. Trends in Polarization/Dispersion Indices for Most Desirable Value for a Nation, 1972-1992.

Presidential approval

   As demonstrated above, political polarization resulting from increased dispersion or

bimodality of political identification/affiliation, ideology, or political values does not seem to be

dramatically increasing, yet some contributors included trends in presidential approval (e.g.

Abramowitz and Saunders 2005), arguing that a respondent's approval or lack of approval for a

president is becoming increasingly tied to their political party affiliation, and that the current

political climate of polarization has resulted in individuals becoming increasingly hostile towards

elected officials from the opposite party. Because changes in the dispersion and bimodality of

these views have not yet been examined, and because Hunter (1991) argued the culture wars

would be characterized by increased hostility of those with different views, it may be beneficial

to see if there are any substantial trends in polarization of presidential approval. Figure 3.17

provides an illustration of the increases and decreases in polarization of a Likert item concerning

presidential approval (#7 in Table 3.6) between 1980 and 2012. Because there have been both

substantial increases and decreases in polarization for this item, Table 3.8 provides a closer look

at the high and low points of polarization during this time period.
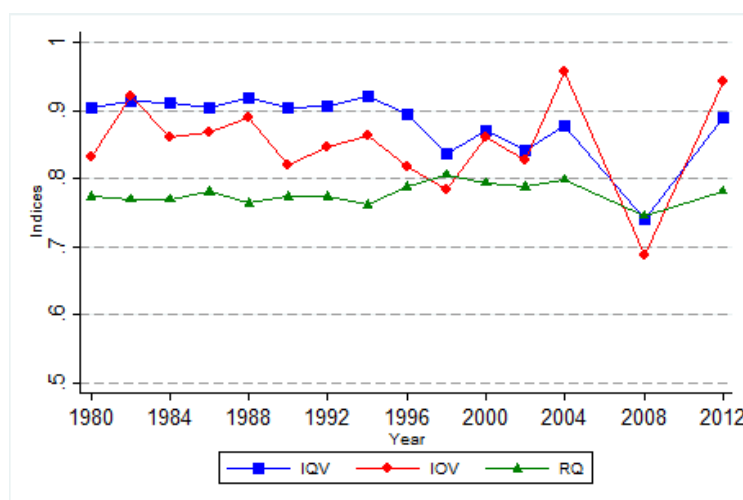
Figure 3.17. Trends in Polarization/Dispersion Indices for Presidential Approval, 1980-2012.

Table 3.8. Percentage Distribution and Polarization/Dispersion Indices for Presidential Approval at High and Low Years of Polarization.

Year	Strongly Approve	Not Strongly	Not Strongly	Strongly Disapprove	IQV	RQ	IOV
1982	26.8	24.2	14.6	34.4	0.91	0.77	0.92
1998	47.2	26.5	8.5	17.8	0.84	0.81	0.78
2004	33.7	17.2	11.6	37.5	0.88	0.80	0.96
2008	9.6	13.3	15.4	61.6	0.74	0.75	0.69
2012	37.7	19.1	10.5	32.7	0.89	0.78	0.94

Discussion for Polarization of Presidential Approval

If presidential approval was becoming increasingly related to political party affiliation, or if political polarization was causing individuals to becoming increasingly hostile to elected officials of the opposite party, we would expect to see a gradual increase in the dispersion or bimodality of presidential approval overtime, yet there is no evidence to support this claim. As you can see in Figure 3.18 and Table 3.8, there is no consistent time trend in the data for any of the included measures. Presidential approval was fairly polarized in 1982, yet in 1998, nearly half of respondents *strongly approved* of President Clinton. In 2004, polarization had hit another high point with 71 percent of respondents divided between strongly approve and strongly disapprove, but in 2008, at the end of President George W. Bush's 2nd term and during the economic and housing market crash of 2008, nearly 62 percent of respondents *strongly disapproved* of President Bush, the most consensus for presidential approval since the item was included in the ANES. I cannot make a definitive claim about potential causes of these periodic increases and decreases in polarization[47], but it seems safe to say that presidential approval has not become increasingly divided due to a "culture war".

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[47] Subsequent researchers could attempt to predict these shifts in polarization using variables that capture time-sensitive issues, such as shifts in the economy, presidential controversy, etc.

Other Items of Interest

To this point, I have reviewed trends of polarization for the items most commonly examined within the "culture wars" and political polarization literature, and it seems that only of a few items related to family and cultural values have shown substantial changes in the amount of dispersion or bimodality of public opinion over time. However, I did encounter other items within my initial selection of variables that have experienced more significant changes in levels of polarization. Here, then, I will deliberately focus on some items that *did* show substantial increases or decreases in polarization. I have taken these from the 95 ordinal items among the 120 variables that I originally examined for this chapter. Table 3.9 presents variables that showed an increase or decrease in polarization of 30 percent or greater, of which I focus on three of these items that have yet to be discussed here.

The first of these items (#1 in Table 3.9) concerns the treatment of criminals in court, and this item, despite referencing a topic not typically treated in the culture wars literature, surprisingly showed one of the largest increases in polarization found among variables treated here. As illustrated in Figure 3.18, the overall increase in polarization between the first and last year the item was included in the GSS was substantial (42 percent increase between 1972 and 2014), despite some upward and downward trends in polarization within the period. The *IOV* for this item decreased significantly in the mid to late 1970s, and then increased from the low point of 0.25 in 1994 to 0.75 in 2014, a 200 percent increase during this 20-year period.

Table 3.9. Items with Substantial Increases or Decreases in Polarization of 30 Percent or More.

#	Variable	Years	Variable Description	Possible Responses	Percent Change in *IOV*
1	courts	1972-2014	In general, do you think the courts in this area deal too harshly or not harshly enough with criminals?	1. Too harsh, 2. About right, 3. Not harsh enough	42 percent increase
2	vcf0892	1990-2008	Should federal spending on foreign aid be increased, decreased or kept about the same?	1. Increase, 2. Same, 3. Decrease	32 percent increase
3	xmarsx	1973-2014	Is sex with a person other than your spouse wrong?	1. Always 2. Almost always, 3. Sometimes, 4. Not wrong	31 percent decrease
4	vcf0834*	1972-2008	Some people feel that women should have an equal role with men in running business, industry and government, others' think their place is in the home, some are in the middle. Place yourself.	1. Women and men should have an equal role, 2., 3., 4., 5., 6., 7. Women's place is in the home	49 percent decrease
5	vcf0877a*	1992-2012	Do you feel homosexuals should be allowed to serve in the U.S. Armed forces?	1. Strongly Allowed, 2. Allowed, 3. Neither, 4. Not Allowed, 5. Strongly Not Allowed	38 percent decrease
6	homosex*	1973-2014	What do you think about sexual relations between two adults of the same sex?	1. Always wrong, 2. Almost always wrong, 3. Sometimes wrong, 4. Not wrong at all	66 percent increase
7	marhomo*	1988-2014	Homosexual couples should have the right to marry one another	1. Strongly agree, 2. Agree, 3. Neither, 4. Disagree, 5. Strongly disagree	42 percent increase

* indicates items discussed in previous sections of this chapter
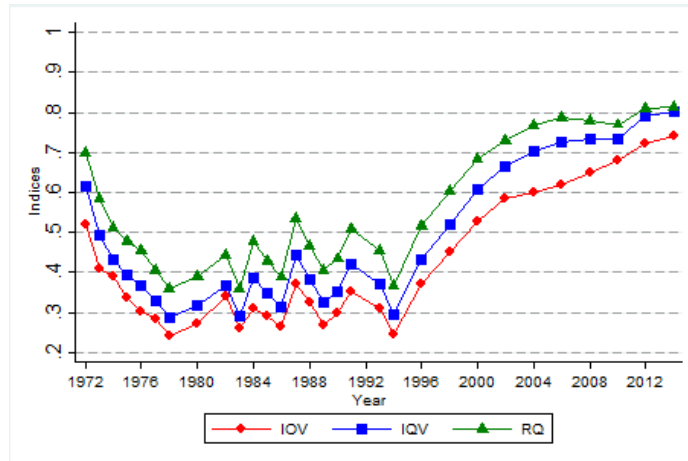
Figure 3.18. Trends in Polarization/Dispersion Indices for Views on Courts' Treatment of Criminals, 1972-2014.

A second item that showed a substantial increase in polarization is related to foreign aid spending (#2 in Table 3.9). As shown in Figure 3.19, polarization of views on foreign aid spending steadily increased (32 percent) between 1980 and 2008. Again, this topic is not typically covered in the literature, but this item showed one of the larger increases over time among all 120 variables examined.
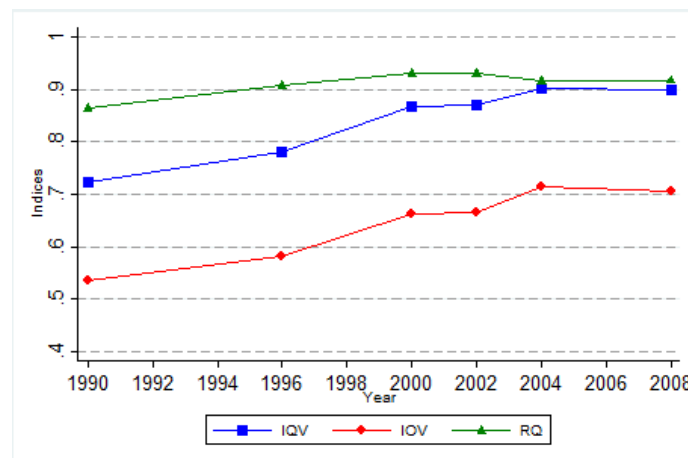
Figure 3.19. Trends in Polarization/Dispersion Indices for Views on Foreign Aid Spending, 1990-2008.

The last item with a substantial increase or decrease in polarization (#3 in Table 3.9), concerns participants' views on the morality of extramarital sex. As shown in Figure 3.20, polarization (*IOV*) for this item decreased substantially (31 percent) from 1972-2012, even

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though its level of polarization was low at the beginning. DiMaggio et al. (1996) also included this item in his scale of views on sexuality, but its trend toward declining polarization mixed with opposing trends from other variables (e.g., about the morality of homosexuality), resulted in a misleading finding that views on sexuality were generally stable over time.
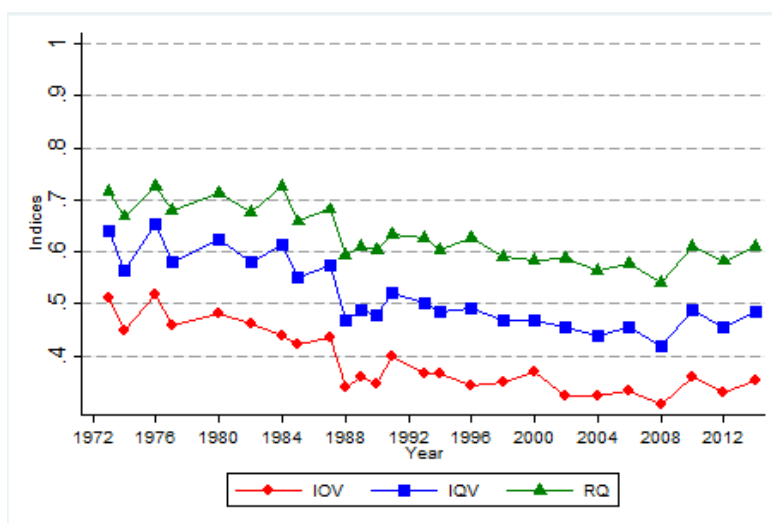
Figure 3.20. Trends in Polarization/Dispersion Indices for Views on Extramarital Sex, 1972-2014.

Results Summary Discussion

This chapter began with discussion of the most commonly analyzed items within the culture wars literature, and while several items substantially increased or decreased in polarization, only 4 items central to this literature changed more than 30 percent during the entire period they were included in the ANES or GSS. Two items related to homosexuality (marriage and morality) increased substantially in polarization, while one item related to the civil rights of gays (gays in military) and one item related to women's equality decreased substantially. To summarize the findings across each topic area featured within the literature, I have created "scorecards" (Table, 3.10, 3.11, 3.12, and 3.13) for each area.

Within the topic of family and cultural values, some items increased or decreased in polarization drastically, while others remained relatively stable. Averaging across all 16 items, polarization (IOV) decreased by an average of 10 percent for items in this area.

Table 3.10. Average Increase or Decrease in Polarization Between First and Last Year Available for Family and Cultural Values.

Variable	Source	Description	Percent Change in *IOV*
vcf0834	ANES	Women- equal role vs. stay at home	49% decrease
fehome	GSS	Women should stay at home	43% decrease
fefam	GSS	Better for man to work woman stay home	2% increase
hubbywrk	GSS	Husband should work and wife look after home	5% increase
famsuffr	GSS	Family suffers when women work fulltime	6% decrease
fechld	GSS	Working mother doesn't hurt children	17% decrease
fepresch	GSS	Preschoolers suffer if mother works	6% decrease
meovrwrk	GSS	Men hurt family if they work too much	19% increase
fepol	GSS	Women are not suited for politics	41% decrease
fepres	GSS	Would vote for a qualified female president?	80% decrease
homosex	GSS	Is homosexuality wrong?	68% increase
vcf0876a	ANES	Law protecting homosexuals from discrimination	12% decrease
marhomo	GSS	Should homosexuals be allowed to marry?	42% increase
vcf0878	ANES ANES	Should gays be allowed to adopt children?	16% increase
vcf0877a	ANES	Should gays be allowed in the military?	38% decrease
premarsx	GSS	Is premarital sex wrong?	12% decrease
OVERALL			**10% decrease**

Considering items related to the role of government (Table 3.11), I found that each item decreased during the time it was included in the GSS and ANES, with polarization of these items decreasing by an average of 9 percent.

Table 3.11. Average Increase or Decrease in Polarization Between First and Last Year Available for Views on Role of Government.

Variable	Source	Description	Percent Change in *IOV*
vcf0809	ANES	Should government see to job and good standard of living?	8% decrease
vcf0839	ANES	Government services vs. spending scale	3% decrease
vcf0806	ANES	Government vs. private health insurance scale	16% decrease
OVERALL			**9% decrease**

As shown in Table 3.12, for items related to political party affiliation, ideology, and presidential approval from the "culture wars" literature, a 7 percent average increase in polarization occurred. While items related to political party identification/affiliation showed small insignificant decreases in polarization, for items related to political ideology and presidential approval small but significant increases in polarization occurred. Note here that while many contributors include these items in their analysis, some argue that changes in dispersion or bimodality of these items should be considered "party sorting," not polarization (Fiorina and Levendusky 2006; Fiorina et al. 2008, 2011).

Table 3.12. Average Increase or Decrease in Polarization Between First and Last Year Available for Items related to Political Affiliation, Ideology, or Presidential Approval.

Variable	Source	Description	Percent Change in *IOV*
partyid	GSS	Political party identification, 7-pt Likert item	1% increase
vcf0301	ANES	Political party affiliation, 7-pt Likert item	3% decrease
polviews	GSS	Political ideology, 7-pt Likert item	10% increase
vcf0803	ANES	Political ideology, 7-pt Likert item	16% increase
vcf0451	ANES	Presidential Approval (4-category)	13% increase
OVERALL			**7% increase**

As shown above (Table 3.9), when expanding my summary to include all 95 ordered variables initially considered, only 7 of the 95 ordered items experienced increases or decreases in dispersion/polarization greater than 30 percent, with 4 of these items increasing. Thus, for items debated heavily within the "culture wars" literature over the last 20 years, my analysis revealed few large or consistent increases in dispersion or polarization. Expanding my analysis to other less frequently used but related items confirmed that outside of a few examples of large increases in polarization, many items remained stable, and others experienced drastic decreases in polarization.

Polarization: Are Measures of Dispersion and Bimodality Enough?

Though I did not find many examples of dramatically increasing dispersion or bimodality within the American public, I would now like to discuss these findings and the findings of previous contributors within the larger "culture war" context. We discovered in the first chapter that previous disagreement about increasing polarization within the public largely centered around differences in the conceptualization of polarization. Fiorina and his colleagues argued that increasing dispersion and bimodality could be considered evidence of "culture wars," yet many contributors did not examine these types of polarization. We found few instances here of increasing dispersion or bimodality, but I, like most contributors, disagree that this evidence alone backs Fiorina et al.'s (2011) claim that the "culture war" is a "myth".

Many other contributors (e.g. Abramowitz and Saunders 2008, Bafumi and Shapiro 2009, Dimock et al. 2014, Alwin and Tufis 2016) examined increases in the correlation of social locations or political identities with social and political views, finding large increases in differences of views between social groups. While there is disagreement about whether these findings are evidence of "polarization," the majority of contributors believe that whether this is

evidence of "sorting" or "polarization," it is an important development in American society and

has real consequences for political culture. Many contributors have documented increases in

hostility or negative feelings towards people with different political affiliations, with Dimock et

al. (2014) finding the percentage of Americans that believe the other party is "unfavorable" has

increased greatly in the last 20 years, up to 79 percent of Democrats and 82 percent of

Republicans, with 27 percent of Democrats and 36 percent of Republicans believing the opposite

party is "a threat to the nation's wellbeing". Dimock et al. (2014) and others have also

documented in increase in "ideological echo chambers," where individuals prefer to live and

socialize with people who share their political views. While these findings may not be evidence

of "polarization," they are evidence of changes in the way Americans think about politics, and

should be considered when examining Hunter's (1991) claims of "culture wars".

Conclusion

The purpose of this thesis was not to solve the "culture wars" debate, but rather to provide some new ways of thinking about polarization, and bring attention to tools specifically designed to examine dispersion and bimodality that may be of use to future "culture war" contributors. In that context, then, I would like to point to some methodological insights arising from this last chapter.

First, we have also found that the most interesting items for this subject are ordinal. Because of this, the *IOV* was the most useful measure here, but we also found that the *IQV* and *RQ* index can be used to supplement the *IOV*, as they draw attention to other features of the response distributions. While not many nominal items are found within this subject area, the *IQV* and *RQ* index would be beneficial in the examination of dispersion or polarization in other areas where nominal variables are more prominent, such as investigations of religious group membership.

I'd also like to point out that although these measures do provide an index of polarization, Blair and Lacy (1996) warned of viewing these indices as absolutely high or absolutely low. While the indices range from 0 to 1, the scale of the range is somewhat arbitrary. It is also important to keep in mind that just because the indices for items are not *increasing* dramatically, several of the items included here did have high levels of polarization. For example, the abortion item analyzed here did not experience increases in polarization, yet the item was highly polarized throughout each year it was included in the ANES. Previous contributors focused on Hunter's (1991) claims of *increasing* conflict, as he claimed that the "culture wars" were a more recent development in American society, and this paper mirrored that focus, as it is an important part of

the "culture wars" claim. Nevertheless, it is important to acknowledge that some issues are consistently highly polarized within the United States, and these high levels of polarization are of interest when discussing American civil society. Future contributors could examine polarization in a cross-cultural context, comparing levels of polarization between countries to identify how American society compares to other nations.

We also discovered that these measures allow a quick examination of multiple variables, and categorical variables to be analyzed separately. Most previous contributors created scales, combining several items within or across topic areas to enable them to the interval level measures. Creating scale variables from multiple items does have advantages. For example, variation of some items here related to gender views seemed to vary due to changes in wording of the item. Creating scales can lessen the effect of these variations that may be due to small shifts in meaning associated with the wording differences. Scales of multiple items may also be more reliable as they provide more information related to the topic examined.

We also found advantages of analyzing each of these items individually. Typical scale analysis practices check the legitimacy of a scale by making sure all items within it are correlated, but as shown here, items may be correlated yet have different trends over time in dispersion or polarization. As done here, treating items separately did allow us to find differing trends in items that were thought to be related. For example, DiMaggio et al. (1996) found that polarization of a scale measuring views on sexuality had remained relatively stable, yet when examining items separately, we found increasing consensus of views on premarital and extramarital sex, but sharply increasing polarization of views on the morality of homosexuality.

We also found other examples of different shifts in polarization within topic areas depending on the type of item. For example, polarization of views related to homosexuality varied greatly depending on whether respondents were asked about the public roles of gay and lesbian individuals or about issues of morality and family. While polarization of views on the civil rights of gay individuals in the public decreased (military enrollment and anti-discrimination laws), polarization of views on homosexuality related to morality and the family increased (whether homosexuality is wrong, gay marriage, and allowing gays and lesbians to adopt). So, while it is well known that *levels* of support for an opinion item may differ dramatically depending on the wording, but here we saw examples showing that dispersion or polarization might similarly vary depending on the language used. (See, e.g., the gender role issues examined here).

Another important lesson is that increasing dispersion or polarization of opinion does not guarantee that there has been increasing hostility or "culture wars," as increasing dispersion can occur in several ways. Increased polarization might come from a "hostile" shifting of responses from the center of a distribution towards a distribution toward the extreme categories, but in several cases here, polarization increased because responses shifted from concentration in one extreme (e.g., homosexuality is always wrong) towards the middle of the distribution or towards a split in responses between the two extremes ("always wrong" and "not wrong"). Both examples would be an increase in dispersion but would likely have different cultural meanings and consequences.

To conclude, I would like to review some of the contributions this thesis makes to the overall discussion of the "culture wars." Chapter 1 provided an in-depth examination identifying the primary fault line within the "culture wars" debate, which we discovered is largely based on

a conceptual and definitional division between contributors. The disagreement of previous contributors lies largely in differing views of what constitutes polarization, with some claiming that all four dimensions of polarization introduced by DiMaggio et al. (1996) are appropriate, while others maintain that only measures of dispersion and bimodality are true indicators of polarization. In Chapter 2, I presented and explained the usefulness of three measures of dispersion and bimodality not yet used for this subject area, as they are the most agreed upon indicators of polarization, yet are the least used and worst dealt with methodologically. In Chapter 3, I applied these measures to items frequently examined within the polarization literature, and compared the results to those of previous contributors, illustrating the ability of these measures to capture changes in dispersion and bimodality of categorical variables. While few dramatic changes in polarization were found here, several items experienced substantial increases or decreases in polarization, highlighting the usefulness of these measures in analyses of polarization and dissensus. My hope here is that my contributions will allow a deeper understanding of the divides within the "culture wars" literature, and that the measures introduced here will be of use for future contributors who would like to include multiple dimensions of polarization in their analysis of the "culture wars."

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Appendix

Table 4.1. List of Variables Initially Included in Analysis, with Variable Name, Variable Description, Source, and Sorted by Topic Area

Variable	Variable Description	Topic	Source
VCF0811	Urban unrest: Solve poverty/unemp or use force	Crime and Justice	ANES
VCF0888	Federal spending dealing with crime	Crime and Justice	ANES
grass	Legalization of marijuana	Crime and Justice	GSS
gunlaw	Favor or oppose gun permits	Crime and Justice	GSS
cappun	capital punishment views	Crime and Justice	GSS
courts	Courts too harsh dealing with criminals	Crime and Justice	GSS
polescap	Police force on citizen attempting to escape custody	Crime and Justice	GSS
polhitok	Ever approve of police striking citizen	Crime and Justice	GSS
VCF0891	Federal spending financial aid for college students	Education	ANES
aidcol	Financial aid for college students	Education	GSS
VCF9048	Federal spending space/science/technology	Education	ANES
natspac	Spending on space exploration program	Education	GSS
VCF0890	Federal spending public schools	Education	ANES
spschool	Govt spending on education	Education	GSS
VCF0842	Environmental regulation scale	Environment	ANES
busdecid	Businesses should decide how to protect environment	Environment	GSS
pubdecid	Govt should let people decide how to protect environment	Environment	GSS
VCF9047	Federal spending improve/protect environment	Environment	ANES
natenvir	Govt spending on environment	Environment	GSS
spenviro	Spending on environment	Environment	GSS
VCF0837	When abortion should be allowed	Family and Cultural Values	ANES

VCF0838	By law, when abortion should be allowed	Family and Cultural Values	ANES
abany	Abortion any reason	Family and Cultural Values	GSS
abdefect	Abortion birth defect	Family and Cultural Values	GSS
abhlth	Abortion mother's health	Family and Cultural Values	GSS
abnomore	Abortion wants no more children	Family and Cultural Values	GSS
abpoor	Abortion lower-income	Family and Cultural Values	GSS
abrape	Abortion rape	Family and Cultural Values	GSS
absingle	Abortion single	Family and Cultural Values	GSS
VCF9043	School prayer allowed	Family and Cultural Values	ANES
prayer	Bible prayer in public schools	Family and Cultural Values	GSS
sexeduc	Sex education in public schools	Family and Cultural Values	GSS
VCF0834	Women equal role scale: equal vs place in home	Family and Cultural Values	ANES
famsuffr	Family suffers if mother works fulltime	Family and Cultural Values	GSS
fechld	Working mother doesn't hurt children	Family and Cultural Values	GSS
fefam	Better for man to work, woman to tend home	Family and Cultural Values	GSS
fepresch	Preschool kids suffer if mother works	Family and Cultural Values	GSS
hubbywrk	Husband should work, wife look after home	Family and Cultural Values	GSS
meovrwrk	Men hurt family when focus on work too much	Family and Cultural Values	GSS
fehome	Women take care of home not country	Family and Cultural Values	GSS
fepol	Women not suited for politics	Family and Cultural Values	GSS
fepres	Vote for women president	Family and Cultural Values	GSS

VCF0876a	Homosexual discrimination law	Family and Cultural Values	ANES
VCF0877a	Should gays be allowed in military	Family and Cultural Values	ANES
VCF0878	Should gays be allowed to adopt	Family and Cultural Values	ANES
colhomo	Should gays be allowed to teach college	Family and Cultural Values	GSS
homosex	Are homosexual relationsd wrong	Family and Cultural Values	GSS
marhomo	Gay marriage	Family and Cultural Values	GSS
premarsx	Sex before marriage	Family and Cultural Values	GSS
xmarsx	Sex with person other than spouse wrong	Family and Cultural Values	GSS
VCF0851	New lifestyles cause societal breakdown	Family and Cultural Values	ANES
VCF0852	Should adjust morality to societal changes	Family and Cultural Values	ANES
VCF0853	More emphasis on traditional values	Family and Cultural Values	ANES
VCF0854	Tolerances of other values	Family and Cultural Values	ANES
VCF0806	Government health insurance 7-pt scale	Government Role	ANES
VCF0808	Should govt guarantee jobs and income 3 category	Government Role	ANES
VCF0809	Should govt guarantee jobs and income 7-pt scale	Government Role	ANES
VCF0839	Government services/spending	Government Role	ANES
VCF9131	Less government or more government better	Government Role	ANES
VCF9132	Government handle economy or free market?	Government Role	ANES
aidindus	Govt assist industrial growth	Government Role	GSS
aidunemp	govt resp: provide unemployed	Government Role	GSS
equalize	Govt should reduce income differences	Government Role	GSS
eqwlth	Govt should reduce income differences	Government Role	GSS
helpnot	Should govt do more or less	Government Role	GSS

jobsall	Govt should provide jobs for all	Government Role	GSS
pricecon	Govt should keep prices under control	Government Role	GSS
privent	Private enterprise will solve US problems	Government Role	GSS
cutgovt	Cuts in govt spending	Government Role	ANES
natcrime	Spending on halting rising crime rate	Government Role	GSS
natdrug	Spending on dealing with drug addiction	Government Role	GSS
nateduc	Spending on education	Government Role	GSS
natfare	Spending on welfare	Government Role	GSS
natheal	Spending on healthcare	Government Role	GSS
natsoc	Spending on social security	Government Role	GSS
sppolice	Govt spending on law enforcement	Government Role	GSS
incgap	Income differentials in USA too big	Inequality	GSS
inequal3	Inequality exists for benefit of rich	Inequality	GSS
inequal5	Pay differences -> American prosperity	Inequality	GSS
VCF0843	Defense spending scale	International, Foreign Policy and Defense	ANES
natarms	Spending on military, armaments, defense	International, Foreign Policy and Defense	GSS
VCF0892	Federal spending Foreign aid	International, Foreign Policy and Defense	ANES
nataid	Spending on Foreign aid	International, Foreign Policy and Defense	GSS
nataidy	Assistance to other countries	International, Foreign Policy and Defense	GSS
VCF0879	Increase of decrease number of immigrants 6 category	International, Foreign Policy and Defense	ANES
VCF0879a	Increase of decrease number of immigrants 4 category	International, Foreign Policy and Defense	ANES

immideas	Immigrants make America more open	International, Foreign Policy and Defense	GSS
VCF0823	Better if US is unconcerned with rest of world	International, Foreign Policy and Defense	ANES
VCF9045	Position of US weaker/stronger than in past year	International, Foreign Policy and Defense	ANES
amownway	America should follow its own interests	International, Foreign Policy and Defense	GSS
powrorgs	International orgs take too much power from US govt	International, Foreign Policy and Defense	GSS
VCF0826	Did US do right thing getting involved in war	International, Foreign Policy and Defense	ANES
VCF0803	Ideology: Liberal-Conservative Scale 7-pt	Political Party and Ideology	ANES
VCF0804	Ideology: Liberal-Conservative Scale 3-pt	Political Party and Ideology	ANES
polviews	Think of self as liberal or conservative 7-pt scale	Political Party and Ideology	GSS
VCF0301	Political party identification 7-pt scale	Political Party and Ideology	ANES
VCF0303	Political party identification 3-pt scale	Political Party and Ideology	ANES
partyid	Political party affiliation 7-pt scale	Political Party and Ideology	GSS
VCF0875	Most important national problem	Political Party and Ideology	ANES
VCF9019	Most desirable goal for the nation	Political Party and Ideology	ANES
VCF0342	Is president knowledgeable	Political Party and Ideology	ANES
VCF0343	Is president moral	Political Party and Ideology	ANES
VCF0344	Does president provide strong leadership	Political Party and Ideology	ANES
VCF0451	Approve/Disapprove President Performance	Political Party and Ideology	ANES
VCF0830	Aid to blacks scale: govt help vs help selves	Poor and Minorities	ANES

VCF0867	Affirmative action in hiring	Poor and Minorities	ANES
VCF9037	Govt should ensure fair jobs for blacks	Poor and Minorities	ANES
VCF9039	Conditions make it difficult for blacks to succeed	Poor and Minorities	ANES
VCF9041	Blacks must try harder to succeed	Poor and Minorities	ANES
VCF9042	Blacks gotten less than deserved past few years	Poor and Minorities	ANES
affirmact	Affirmative action	Poor and Minorities	GSS
discaff	Whites hurt by affirmative action	Poor and Minorities	GSS
helpblk	Should govt aid blacks	Poor and Minorities	GSS
natrace	Spending on improving condition of blacks	Poor and Minorities	GSS
wrkwayup	Blacks overcome prejudice without favors	Poor and Minorities	GSS
aidhouse	Govt provide poor housing	Poor and Minorities	GSS
VCF0886	Federal spending aid to poor	Poor and Minorities	ANES
VCF0894	Federal spending welfare programs	Poor and Minorities	ANES
VCF9050	Federal spending assistance to blacks	Poor and Minorities	ANES

Table 4.2. Frequency Distribution and Polarization/Dispersion Indices for Views on Gay Anti-Discrimination Law, 1988- 2012 (vcf0876a: ANES).

Year	Strongly	Favor	Neither	Oppose	Strongly	*IQV*	*RQ*	*IOV*
1988	23.5	24.2	12.3	14.3	25.7	0.9807	0.6661	0.8604
1992	31.8	27.1	2.4	14.6	24.1	0.9317	0.7417	0.8792
1996	38.0	23.0	4.5	12.5	21.9	0.9208	0.7343	0.8706
2000	39.0	25.7	4.1	13.1	18.2	0.9129	0.7408	0.8295
2004	49.6	23.6	3.0	9.1	14.8	0.8347	0.7732	0.7539
2008	51.4	19.2	1.9	11.5	16.0	0.8242	0.7673	0.7909
2012	51.7	22.6	2.5	10.0	13.3	0.8167	0.7737	0.7350

Table 4.3. Frequency Distribution and Polarization/Dispersion Indices for Views on Gays in Military, 1992- 2012 (vcf0877a: ANES).

Year	Strongly	Agree	Neither	Disagree	Strongly	*IQV*	*RQ*	*IOV*
1992	30.9	25.0	4.6	8.6	30.9	0.9214	0.7502	0.9127
1996	42.9	24.3	2.4	6.6	23.9	0.8696	0.7900	0.8591
2000	48.8	23.0	5.2	5.0	18.0	0.8392	0.7767	0.7776
2004	53.1	25.6	3.0	5.6	12.7	0.7907	0.7954	0.6772
2008	55.6	21.5	2.1	7.3	13.6	0.7758	0.7788	0.7062
2012	61.2	23.8	1.7	3.7	9.6	0.6977	0.7938	0.5670

Table 4.4. Frequency Distribution and Polarization/Dispersion Indices for Views on Morality of Homosexuality, 1973- 2012 (homosex: GSS).

Year	Always	Almost Always	Sometimes	Not Wrong	*IQV*	*RQ*	*IOV*
1973	74.3	6.7	7.8	11.2	0.5662	0.6511	0.5924
1974	73.1	5.2	8.2	13.5	0.5839	0.6727	0.6437
1976	70.1	6.2	7.9	15.9	0.6319	0.7101	0.6998
1977	71.9	5.8	7.5	14.9	0.6036	0.6900	0.6699
1980	73.3	6.0	6.1	14.6	0.5788	0.6742	0.6460
1982	74.8	5.3	6.6	13.4	0.5546	0.6533	0.6199
1984	73.3	5.0	7.4	14.3	0.5790	0.6738	0.6513
1985	75.3	4.0	7.0	13.7	0.5430	0.6489	0.6239
1987	78.2	4.1	5.8	11.9	0.4929	0.6026	0.5615
1988	76.8	4.7	5.7	12.8	0.5170	0.6247	0.5869
1989	74.2	4.1	6.0	15.7	0.5596	0.6716	0.6588
1990	76.3	4.8	6.1	12.8	0.5279	0.6325	0.5952
1991	75.5	4.1	4.4	16.0	0.5347	0.6585	0.6424
1993	66.3	4.4	7.3	22.0	0.6728	0.7710	0.8034
1994	66.5	4.0	6.2	23.3	0.6639	0.7796	0.8124
1996	60.4	5.2	6.2	28.2	0.7318	0.8309	0.8895
1998	58.0	5.7	6.9	29.4	0.7588	0.8391	0.9096
2000	58.8	4.5	8.0	28.8	0.7513	0.8369	0.9066
2002	55.0	4.9	7.1	33.0	0.7749	0.8645	0.9454
2004	57.6	4.7	6.9	30.8	0.7554	0.8511	0.9227
2006	55.1	5.0	7.1	32.7	0.7752	0.8619	0.9428
2008	51.5	3.4	6.9	38.1	0.7773	0.8972	0.9777
2010	45.4	4.3	7.9	42.4	0.8078	0.8947	0.9895
2012	45.8	3.0	6.6	44.6	0.7815	0.9153	0.9936
2014	40.5	3.3	7.0	49.2	0.7839	0.9047	0.9829

Table 4.5. Frequency Distribution and Polarization/Dispersion Indices for Views on Gay Marriage, 1988- 2014 (marhomo, GSS).

Year	Strongly	Agree	Neither	Disagree	Strongly	iqv	rq	iov
1988	3.4	9.0	15.0	25.7	46.9	0.8527	0.7741	0.5890
2004	11.4	18.2	14.6	20.3	35.5	0.9568	0.6837	0.7852
2006	15.5	19.7	13.1	16.6	35.1	0.9617	0.6772	0.8365
2008	16.7	23.0	12.7	15.9	31.7	0.9718	0.6715	0.8442
2010	21.4	25.0	13.2	15.1	25.2	0.9845	0.6604	0.8460
2012	25.1	24.5	11.8	14.2	24.4	0.9793	0.6683	0.8595
2014	31.5	25.0	11.0	13.2	19.4	0.9643	0.6834	0.8370

Table 4.6. Frequency Distribution and Polarization/Dispersion Indices for Views on Gay Adoption, 1992- 2012 (vcf0878: ANES).

Year	Yes	Depends	No	*IQV*	*RQ*	*IOV*
1992	26.5	4.2	69.3	0.6725	0.8032	0.8153
2000	41.9	7.1	51.0	0.8386	0.9367	0.9867
2004	47.5	4.4	48.1	0.8122	0.9612	0.9980
2008	49.1	1.9	49.0	0.7781	0.9818	0.9996
2012	60.4	2.0	37.6	0.7406	0.9320	0.9475

Table 4.7. Frequency Distribution and Polarization/Dispersion Indices for Views on Abortion, 1980- 2012 (vcf0838: ANES).

Year	Never	Rape, Incest, Danger	Only if needed	Always	*IQV*	*RQ*	*IOV*
1980	11.5	32.7	19.0	36.8	0.9445	0.7939	0.7747
1982	13.3	30.8	19.6	36.4	0.9558	0.7835	0.7905
1984	13.3	30.3	20.0	36.4	0.9571	0.7826	0.7900
1986	13.4	29.0	18.4	39.3	0.9468	0.7855	0.7977
1988	12.7	33.2	18.5	35.6	0.9502	0.7889	0.7844
1990	12.2	33.2	14.4	40.2	0.9235	0.8044	0.7934
1992	10.7	28.3	14.3	46.8	0.8929	0.8057	0.7762
1994	12.4	30.7	13.9	43.0	0.9148	0.8033	0.7983
1996	11.9	29.5	16.2	42.4	0.9240	0.7975	0.7890
1998	12.3	29.1	16.7	41.9	0.9291	0.7941	0.7921
2000	12.2	29.9	15.1	42.8	0.9196	0.7994	0.7946
2004	13.3	31.7	17.7	37.3	0.9482	0.7881	0.7955
2008	15.5	28.7	15.5	40.3	0.9432	0.7850	0.8244
2012	11.5	27.5	15.3	45.7	0.9050	0.7990	0.7834

Table 4.8. Frequency Distribution and Polarization/Dispersion Indices for Views on Women's Equal Role, 1972- 2008 (vcf0834: ANES).

Year	Equal Role	2	3	4	5	6	In the home	*IQV*	*RQ*	*IOV*
1972	32.7	9.3	6.9	20.4	6.3	4.6	19.7	0.9251	0.6177	0.8456
1974	33.2	9.9	8.9	20.2	8.3	5.4	14.1	0.9352	0.5935	0.7970
1976	32.9	12.7	9.1	20.1	8.4	5.2	11.7	0.9380	0.5893	0.7667
1978	40.6	11.0	8.3	17.3	7.1	5.2	10.4	0.8954	0.6274	0.7545
1980	35.0	16.6	10.5	17.1	7.5	6.5	6.8	0.9276	0.6009	0.7041
1982	39.4	13.3	9.5	18.2	6.9	4.8	7.9	0.9002	0.6283	0.7094
1984	35.9	13.4	10.3	23.6	7.9	3.2	5.7	0.9059	0.6398	0.6642
1988	43.5	15.5	9.8	16.5	4.9	4.0	5.9	0.8669	0.6617	0.6493
1990	45.2	12.7	8.4	17.2	6.6	4.1	5.9	0.8561	0.6630	0.6656
1992	53.4	14.2	7.3	13.9	4.7	2.8	3.8	0.7764	0.7038	0.5687
1994	45.9	16.6	8.4	16.3	5.8	3.5	3.6	0.8431	0.6841	0.6020
1996	49.7	19.4	8.0	11.9	4.3	3.3	3.3	0.8055	0.7078	0.5539
1998	56.5	14.2	7.1	13.2	3.9	2.0	3.1	0.7415	0.7151	0.5238
2000	58.5	14.5	7.2	10.6	3.9	2.4	3.0	0.7204	0.7109	0.5077
2004	61.5	14.5	7.5	9.3	3.4	1.6	2.2	0.6813	0.7144	0.4525
2008	66.0	13.6	5.2	7.4	3.7	1.9	2.2	0.6241	0.6957	0.4304

Table 4.9. Frequency Distribution and Polarization/Dispersion Indices for Views on Men and Women's Gender Roles at Work and Home, 1977- 2014 (fefam: GSS).

Year	Strongly	Agree	Disagree	Strongly	*IQV*	*RQ*	*IOV*
1977	18.3	47.5	28.1	6.1	0.8777	0.8241	0.5760
1985	10.0	38.4	38.2	13.4	0.9047	0.8224	0.6074
1986	9.1	38.6	39.9	12.4	0.8912	0.8324	0.5882
1988	9.1	33.0	41.4	16.5	0.9124	0.8145	0.6193
1989	9.7	31.2	42.3	16.8	0.9150	0.8087	0.6257
1990	7.1	33.4	45.0	14.5	0.8802	0.8332	0.5750
1991	7.6	34.5	4.1	17.2	0.9068	0.8240	0.6087
1993	6.1	30.2	46.6	17.2	0.8784	0.8295	0.5738
1994	6.8	28.2	46.8	18.2	0.8854	0.8198	0.5870
1996	7.6	30.8	43.9	17.6	0.9001	0.8196	0.6029
1998	7.2	28.0	46.0	18.9	0.8926	0.8172	0.5965
2000	11.3	29.4	40.5	18.7	0.9350	0.7947	0.6586
2002	10.1	28.6	42.5	18.7	0.9225	0.8005	0.6407
2004	8.8	28.8	44.1	18.3	0.9089	0.8084	0.6199
2006	8.4	27.3	46.7	17.6	0.8929	0.8095	0.6025
2008	9.3	27.5	44.9	18.4	0.9079	0.8042	0.6225
2010	7.6	28.5	43.0	20.9	0.9123	0.8138	0.6211
2012	6.8	24.4	49.5	19.4	0.8714	0.8126	0.5783
2014	6.3	24.8	47.4	21.5	0.8848	0.8174	0.5897

Table 4.10. Frequency Distribution and Polarization/Dispersion Indices for Views on Role of Husband and Wife, 1988- 2008 (hubbywrk: GSS).

Year	Strongly	Agree	Neither	Disagree	Strongly	*IQV*	*RQ*	*IOV*
1988	8.7	19.4	20.5	32.1	19.3	0.9654	0.6829	0.6867
1991	11.0	17.7	22.3	26.0	23.0	0.9831	0.6635	0.7300
1998	9.8	12.4	19.2	24.7	34.0	0.9525	0.6955	0.7277
2008	11.7	15.9	20.8	30.4	21.1	0.9755	0.6694	0.7197

Table 4.11. Frequency Distribution and Polarization/Dispersion Indices for Views on Women in Politics, 1974- 2014 (fepol: GSS).

Year	Agree	Disagree	*IQV*	*RQ*	*IOV*
1974	47.0	53.0	0.9964	0.9964	0.9964
1975	49.7	50.3	1.0000	1.0000	1.0000
1977	49.3	50.7	0.9998	0.9998	0.9998
1978	43.8	56.2	0.9846	0.9846	0.9846
1982	37.5	62.5	0.9375	0.9375	0.9375
1983	35.6	64.4	0.9169	0.9169	0.9169
1985	38.6	61.4	0.9481	0.9481	0.9481
1986	37.4	62.6	0.9363	0.9363	0.9363
1988	33.3	66.7	0.8880	0.8880	0.8880
1989	30.4	69.7	0.8456	0.8456	0.8456
1990	26.9	73.1	0.7871	0.7871	0.7871
1991	26.2	73.8	0.7731	0.7731	0.7731
1993	21.3	78.7	0.6699	0.6699	0.6699
1994	20.9	79.1	0.6616	0.6616	0.6616
1996	21.9	78.1	0.6834	0.6834	0.6834
1998	23.2	76.8	0.7123	0.7123	0.7123
2000	23.3	76.7	0.7147	0.7147	0.7147
2002	21.8	78.2	0.6828	0.6828	0.6828
2004	25.4	74.6	0.7583	0.7583	0.7583
2006	22.8	77.2	0.7048	0.7048	0.7048
2008	26.5	73.5	0.7795	0.7795	0.7795
2010	21.2	78.8	0.6692	0.6692	0.6692
2012	20.0	80.0	0.6400	0.6400	0.6400
2014	18.0	82.0	0.5904	0.5904	0.5904

Table 4.12. Frequency Distribution and Polarization/Dispersion Indices for Views on Women Running the Country, 1974- 1998 (fehome: GSS).

Year	Agree	Disagree	IQV	RQ	IOV
1974	35.6	64.4	0.9167	0.9167	0.9167
1975	35.6	64.4	0.9172	0.9172	0.9172
1977	38.2	61.8	0.9442	0.9442	0.9442
1978	31.9	68.1	0.8692	0.8692	0.8692
1982	28.3	71.8	0.8107	0.8107	0.8107
1983	23.2	76.8	0.7126	0.7126	0.7126
1985	23.7	73.7	0.7764	0.7764	0.7764
1986	24.2	75.8	0.7329	0.7329	0.7329
1988	21.2	78.8	0.6673	0.6673	0.6673
1989	20.0	80.0	0.6405	0.6405	0.6405
1990	17.9	82.1	0.5869	0.5869	0.5869
1991	19.3	80.7	0.6237	0.6237	0.6237
1993	14.8	85.2	0.5038	0.5038	0.5038
1994	14.1	85.9	0.4846	0.4846	0.4846
1996	16.4	83.7	0.5470	0.5470	0.5470
1998	15.4	84.6	0.5221	0.5221	0.5221

Table 4.13. Frequency Distribution and Polarization/Dispersion Indices for Views on Voting for Female President, 1972- 2010 (fepres: GSS).

Year	Yes	No	IQV	RQ	IOV
1972	73.7	26.4	0.7763	0.7763	0.7763
1974	80.3	19.8	0.6339	0.6339	0.6339
1975	80.4	19.6	0.6299	0.6299	0.6299
1977	79.3	20.7	0.6563	0.6563	0.6563
1978	81.6	18.4	0.6014	0.6014	0.6014
1982	86.1	13.9	0.4777	0.4777	0.4777
1983	86.5	13.5	0.4660	0.4660	0.4660
1985	82.3	17.7	0.5824	0.5824	0.5824
1986	86.3	13.7	0.4719	0.4719	0.4719
1988	87.9	12.1	0.4257	0.4257	0.4257
1989	96.5	13.5	0.4682	0.4682	0.4682
1990	89.5	10.5	0.3760	0.3760	0.3760
1991	90.6	9.4	0.3412	0.3412	0.3412
1993	90.7	9.3	0.3375	0.3375	0.3375
1994	92.0	8.0	0.2951	0.2951	0.2951
1996	93.1	6.9	0.2582	0.2582	0.2582
1998	93.6	6.4	0.2408	0.2408	0.2408
2008	93.8	6.2	0.2329	0.2329	0.2329
2010	96.0	4.0	0.1525	0.1525	0.1525

Table 4.14. Frequency Distribution and Polarization/Dispersion Indices for Views on Working Mothers, 1977- 2014 (fechld: GSS).

Year	Strongly	Agree	Disagree	Strongly	IQV	RQ	IOV
1977	15.7	33.3	33.6	17.5	0.9620	0.7787	0.7018
1985	21.3	39.5	28.9	10.3	0.9394	0.7958	0.6647
1986	22.1	40.3	29.7	7.8	0.9251	0.8117	0.6383
1988	23.9	39.3	27.7	9.1	0.9379	0.8009	0.6628
1989	21.6	42.4	28.9	7.1	0.9131	0.8170	0.6206
1990	21.8	41.5	29.0	7.7	0.9205	0.8123	0.6321
1991	20.0	45.3	28.4	6.3	0.8937	0.8226	0.5944
1993	20.4	46.7	26.6	6.3	0.8877	0.8201	0.5898
1994	23.4	46.3	25.5	4.9	0.8857	0.8297	0.5832
1996	24.2	42.3	26.1	7.4	0.9188	0.8119	0.6334
1998	22.1	45.7	25.5	6.6	0.8967	0.8169	0.6032
2000	20.4	40.7	29.3	9.6	0.9303	0.8013	0.6493
2002	24.2	39.4	27.1	9.3	0.9389	0.7992	0.6660
2004	23.5	42.3	27.2	7.0	0.9163	0.8155	0.6271
2006	24.0	43.0	27.0	5.9	0.9076	0.8236	0.6125
2008	26.8	45.5	22.2	5.5	0.8922	0.8262	0.5985
2010	29.9	45.5	20.0	4.6	0.8822	0.8377	0.5857
2012	26.5	45.9	22.5	5.1	0.8879	0.8291	0.5908
2014	30.0	46.0	19.4	4.6	0.8781	0.8382	0.5818

Table 4.15. Frequency Distribution and Polarization/Dispersion Indices for Views of Effect on Family of Working Mothers, 1988- 2012 (famsuffr: GSS).

Year	Strongly	Agree	Neither	Disagree	Strongly	IQV	RQ	IOV
1988	8.5	26.4	15.3	32.9	17.0	0.9539	0.6960	0.6960
1991	9.5	25.3	17.4	30.0	17.8	0.9686	0.6804	0.7082
1994	9.3	25.7	13.7	35.3	15.9	0.9452	0.7011	0.6955
1998	11.1	19.8	19.5	27.5	22.2	0.9824	0.6637	0.7343
2002	13.7	25.9	22.8	0.0	37.6	0.9009	0.7771	0.8266
2012	5.7	22.5	12.0	40.2	19.7	0.9148	0.7298	0.6549

Table 4.16. Frequency Distribution and Polarization/Dispersion Indices for Views on Working Womens' Effect on Preschoolers, 1977- 2014 (fepresch: GSS).

Year	Strongly	Agree	Disagree	Strongly	*IQV*	*RQ*	*IOV*
1977	20.8	46.5	28.2	4.5	0.8786	0.8355	0.5706
1985	13.0	41.0	36.3	9.7	0.8988	0.8250	0.5993
1986	10.8	40.4	39.7	9.2	0.8796	0.8405	0.5727
1988	10.8	37.4	40.8	11.0	0.8929	0.8293	0.5915
1989	9.0	39.0	42.2	9.8	0.8694	0.8470	0.5598
1990	8.1	41.3	41.9	8.7	0.8528	0.8604	0.5382
1991	9.1	38.7	42.3	9.9	0.8716	0.8452	0.5627
1993	7.2	36.0	47.0	9.8	0.8460	0.8541	0.5338
1994	8.7	37.6	42.8	11.0	0.8597	0.8441	0.5509
1996	8.7	37.6	42.8	11.0	0.8748	0.8419	0.5671
1998	8.6	33.8	47.7	10.0	0.8548	0.8408	0.5494
2000	9.7	37.8	42.1	10.4	0.8795	0.8387	0.5735
2002	9.8	35.9	43.7	10.7	0.8798	0.8349	0.5760
2004	6.5	35.5	45.8	12.1	0.8597	0.8481	0.5482
2006	8.7	31.6	48.7	10.9	0.8574	0.8307	0.5570
2008	8.0	28.3	50.8	12.9	0.8513	0.8192	0.5557
2010	6.2	28.8	50.8	14.2	0.8464	0.8279	0.5429
2012	6.7	27.3	50.8	15.3	0.8534	0.8196	0.5548
2014	4.9	25.3	52.5	17.6	0.8403	0.8232	0.5369

Table 4.17. Frequency Distribution and Polarization/Dispersion Indices for Views of Overworking Men, 1994- 2012 (meovrwrk: GSS).

Year	Strongly	Agree	Neither	Disagree	Strongly	*IQV*	*RQ*	*IOV*
1994	8.8	50.1	20.6	17.5	3.0	0.8339	0.7690	0.5138
1996	15.9	57.2	11.7	13.7	1.5	0.7687	0.7596	0.4736
2000	11.5	48.4	18.3	19.9	1.9	0.8488	0.7682	0.5311
2002	11.0	46.0	12.0	29.3	1.8	0.8449	0.7941	0.5743
2004	10.4	51.0	15.0	20.8	2.8	0.8281	0.7654	0.5376
2006	10.5	47.8	15.4	24.1	2.2	0.8476	0.7752	0.5523
2008	16.9	49.6	12.2	23.5	3.8	0.8382	0.7653	0.5710
2010	8.6	46.6	13.5	27.3	4.0	0.8515	0.7768	0.5794
2012	10.1	43.2	13.2	29.6	4.0	0.8707	0.7736	0.6003
2014	10.6	42.1	14.0	28.7	4.6	0.8840	0.7616	0.6093

Table 4.18. Frequency Distribution and Polarization/Dispersion Indices for Views on Government Role in Guaranteeing Jobs and Standard of Living, 1972- 2012 (vcf0809: ANES).

Year	Govt see to it	2	3	4	5	6	Persons on their own	*IQV*	*RQ*	*IOV*
1972	14.83	6.38	10.32	23.23	14.45	9.29	21.49	0.973	0.542	0.759
1974	13.66	5.65	9.39	25.34	15.19	10.99	19.77	0.969	0.547	0.732
1976	13.58	6.15	9.72	21.68	13.74	13.07	22.07	0.976	0.536	0.755
1978	8.57	4.01	8.96	23.9	18.57	14.84	21.15	0.962	0.565	0.668
1980	11.54	8.06	10.94	20.87	15.95	18.83	13.83	0.985	0.518	0.707
1982	10.99	7.44	10.41	23.22	18.43	15.12	14.38	0.980	0.527	0.689
1984	11.99	8.45	13.03	22.68	18.87	14.7	10.27	0.983	0.522	0.678
1986	11	6.54	9.12	22.7	17.44	15.16	18.04	0.977	0.534	0.705
1988	10.49	7.36	10.55	21.28	18.43	16.23	15.65	0.983	0.524	0.695
1990	12.53	9.46	13.06	21.34	16.43	14.18	13	0.990	0.508	0.711
1992	9.66	8.6	11.83	22.41	20.01	14	13.49	0.981	0.525	0.675
1994	9.32	7.63	11.92	24.15	17.31	15.68	13.98	0.979	0.529	0.672
1996	7.98	7.79	10.3	21.96	20.54	18.74	12.69	0.975	0.539	0.650
1998	13.55	10.16	12.21	22.55	15.69	12.48	13.37	0.989	0.510	0.719
2000	8.14	5.28	10.23	19.03	20.79	21.45	15.07	0.971	0.549	0.651
2004	12.24	8.34	13.06	20.4	17.14	16.23	12.6	0.989	0.511	0.705
2008	16.8	9.96	11.82	19.82	16.89	12.7	12.01	0.991	0.507	0.738
2012	11.12	9.79	12.93	22.94	15.39	15.32	12.51	0.987	0.513	0.696

Table 4.19. Frequency Distribution and Polarization/Dispersion Indices for Views on Government Spending vs. Services, 1982- 2012 (vcf0839: ANES).

Year	Fewer Services	2	3	4	5	6	More Services	*IQV*	*RQ*	*IOV*
1982	10.72	12.87	16.8	28.69	13.94	7.95	9.03	0.965	0.547	0.636
1984	6.65	11.25	15.65	31.19	17.26	9.22	8.79	0.951	0.569	0.592
1986	5.14	7.07	13.84	27.89	19.24	13.33	13.49	0.960	0.563	0.607
1988	6.13	9.54	16.47	29.23	17.46	12.2	8.98	0.958	0.562	0.596
1990	5.26	7.4	14.37	28.2	18.23	13.52	13.03	0.960	0.561	0.609
1992	6.15	9.72	15.57	31.33	18.79	9.32	9.12	0.947	0.576	0.582
1994	10.78	12.83	18.83	27.57	17.23	7.28	5.49	0.960	0.563	0.596
1996	6.48	12.28	18.55	31.38	16.64	8.87	5.8	0.944	0.585	0.561
1998	6.71	9.09	14.61	28.04	16.65	13.59	11.3	0.966	0.548	0.625
2000	5.37	7.01	11.92	29.32	21.5	13.43	11.45	0.950	0.576	0.587
2004	4.72	6.7	11.7	26.79	22.92	13.68	13.49	0.955	0.573	0.592
2008	5.56	6.19	9.86	24.24	21.72	14.17	18.26	0.961	0.565	0.628
2012	8.57	13.91	16.68	25.99	18.62	8.8	7.44	0.968	0.548	0.615

Table 4.20. Frequency Distribution and Polarization/Dispersion Indices for Views on Governmental vs. Private Health Insurance, 1970- 2012 (vcf0806: ANES).

Year	1. Govt	2	3	4	5	6	7. Private	*IQV*	*RQ*	*IOV*
1970	28.66	8.72	7.79	14.8	6.31	9.5	24.22	0.946	0.585	0.889
1972	30.76	7.19	7.55	14.39	6.56	5.85	27.7	0.921	0.624	0.907
1976	26.74	9.16	7.41	12.78	8.82	9.89	25.21	0.953	0.571	0.889
1978	28.45	9.02	7.7	13.06	9.08	10.3	22.4	0.955	0.566	0.882
1984	16.29	10.48	10.98	20.71	15.66	14.27	11.62	0.991	0.507	0.736
1988	19.57	10.66	12.13	18.98	14.35	10.9	13.42	0.991	0.507	0.767
1992	23.27	14.39	13.93	20.37	11.5	8.64	7.9	0.977	0.533	0.717
1994	17.29	8.61	12.28	21.08	13.07	12.46	15.21	0.989	0.511	0.761
1996	14.26	11.07	13.41	21.35	15.82	13.22	10.87	0.991	0.506	0.712
2000	16.79	10.59	16.79	20.75	14.33	10.05	10.7	0.988	0.512	0.715
2004	19.78	12.5	13.49	19.42	14.84	11.15	8.81	0.988	0.512	0.728
2008	25.96	12.84	12.07	17.91	11.88	8.62	10.73	0.976	0.532	0.764
2012	15.87	11.19	12.05	19.87	13.54	14.17	13.32	0.994	0.501	0.750

Table 4.21. Frequency Distribution and Polarization/Dispersion Indices for Political Party Identification, 1972- 2014 (partyid: GSS).

Year	Strong Dem	Not Strong Dem	Ind, near Dem	Indepen	Inp, near Rep	Not Strong Rep	Strong Rep	IQV	RQ	IOV
1972	21.2	28.35	10.4	10.34	6.5	15.02	8.19	0.956	0.566	0.746
1973	16.14	26.76	13.42	9.99	9.85	15.23	8.6	0.973	0.536	0.740
1974	17.55	26.6	14.76	10.27	7.56	15.41	7.85	0.969	0.546	0.732
1975	17.04	23.69	14.32	14.32	8.28	16.02	6.31	0.977	0.535	0.717
1976	15.09	27.03	13.88	16.16	7.04	14.35	6.44	0.967	0.549	0.696
1977	18.18	26.44	13.22	11.57	8.59	14.94	7.07	0.970	0.543	0.726
1978	14.24	25.64	13.12	14.57	8.9	16.22	7.32	0.975	0.534	0.719
1980	12.91	25.69	13.26	16.9	8.45	14.97	7.83	0.975	0.535	0.708
1982	20.78	26.33	13.22	12.3	8.27	11.64	7.45	0.967	0.548	0.717
1983	15.57	24.18	13.8	12.15	8.92	16.2	9.18	0.981	0.524	0.745
1984	18.36	19.4	14.48	11.3	10.81	16.98	8.66	0.988	0.513	0.757
1985	16.14	23.21	10.52	9.66	10.38	17.59	12.5	0.983	0.522	0.790
1986	16.8	23.05	10.84	12.83	10.29	16.53	9.67	0.984	0.520	0.761
1987	23.52	22.02	11.76	11.09	8.25	14.83	8.53	0.973	0.540	0.764
1988	15.99	21.21	12.2	12.6	9.49	18.63	9.89	0.986	0.516	0.764
1989	15.4	22.05	8.82	12.64	7.83	21.72	11.52	0.977	0.534	0.786
1990	12.54	23.23	9.81	11.43	10.55	20.65	11.8	0.980	0.526	0.771
1991	14.96	21.31	8.75	12.56	11.29	19.04	12.09	0.986	0.516	0.781
1993	14.37	20.32	12.03	12.97	10	18.92	11.39	0.989	0.510	0.768
1994	14.59	22.21	11.76	12.73	9.73	17.9	11.07	0.986	0.515	0.766
1996	14.01	20.21	12.47	16.01	9.04	17.51	10.75	0.989	0.511	0.751
1998	13.41	21.63	12.64	17.28	8.84	17.54	8.66	0.984	0.521	0.729
2000	15.02	18.39	11.79	20.53	9.47	14.47	10.34	0.988	0.512	0.735
2002	15.22	19.21	9.96	19.69	7.42	16.75	11.75	0.985	0.521	0.759
2004	16.42	18.19	10.14	17	8.63	15.34	14.29	0.991	0.508	0.785
2006	15.84	16.66	11.93	22.56	7.4	14.42	11.2	0.984	0.521	0.740
2008	19.78	16.78	13.29	16.33	8.22	15.37	10.24	0.989	0.512	0.765
2010	17.58	17.58	13.39	18.19	9.95	14	9.3	0.990	0.509	0.738
2012	18.68	18	12.33	19.57	8.24	13.12	10.07	0.986	0.517	0.745
2014	17.1	16.57	13.76	20.49	10.16	11.92	10	0.989	0.511	0.729

Table 4.22. Frequency Distribution and Polarization/Dispersion Indices for Political Party Affiliation, 1952- 2012 (vcf0301: ANES).

Year	Strong Dem	Weak Dem	Ind, near Dem	Indepen	Inp, near Rep	Weak Rep	Strong Rep	*IQV*	*RQ*	*IOV*
1952	23.21	25.75	10.24	4.91	7.58	14.03	14.27	0.958	0.568	0.817
1954	22.79	26.47	8.92	7.54	6.25	14.61	13.42	0.958	0.566	0.808
1956	21.54	23.79	6.57	9.17	8.64	14.79	15.5	0.969	0.548	0.831
1958	27.42	23.52	6.87	7.38	5.43	17.08	12.3	0.947	0.586	0.823
1960	23.67	24.91	5.83	9.36	6.54	14.31	15.37	0.958	0.568	0.832
1962	24.01	24.25	7.52	8.08	6.47	16.9	12.77	0.959	0.566	0.820
1964	27.15	25.07	9.38	7.88	5.73	13.67	11.13	0.950	0.579	0.788
1966	18.21	28.03	9.11	12.43	7.13	15.36	9.74	0.964	0.552	0.759
1968	20.31	25.73	9.99	10.65	8.82	14.76	9.73	0.971	0.542	0.768
1970	20	23.96	10.47	13.02	7.85	15.44	9.26	0.975	0.535	0.763
1972	14.73	25.42	11.09	14.84	10.46	13.14	10.32	0.981	0.523	0.741
1974	18.68	20.15	12.64	16.24	9.24	13.74	9.31	0.987	0.515	0.746
1976	15.24	24.12	11.72	15.28	9.83	14.43	9.38	0.983	0.521	0.738
1978	14.98	24.06	14.46	16.35	9.56	12.74	7.84	0.981	0.526	0.707
1980	17.74	23.01	11.41	15.07	10.3	13.96	8.5	0.983	0.522	0.739
1982	20.24	23.88	11.05	13.04	7.98	14.18	9.62	0.977	0.533	0.760
1984	17.01	19.93	10.86	12.57	12.43	14.77	12.43	0.993	0.503	0.780
1986	18.03	21.93	10.48	13.63	10.85	14.56	10.52	0.987	0.514	0.767
1988	17.52	17.72	11.85	11.99	13.33	13.82	13.77	0.996	0.498	0.788
1990	20	19.13	12.47	12.01	11.86	14.91	9.62	0.989	0.510	0.768
1992	17.98	17.45	14.29	12.75	12.35	14.05	11.13	0.995	0.499	0.765
1994	15.45	18.82	12.81	10.73	11.74	14.49	15.96	0.995	0.500	0.797
1996	19.28	19.52	13.66	9.2	10.73	15.06	12.54	0.989	0.511	0.792
1998	18.83	18.6	14.26	11.43	10.48	15.6	10.8	0.991	0.507	0.773
2000	19.31	15.23	15.01	12.5	12.83	11.94	13.17	0.995	0.498	0.780
2002	16.91	17.11	13.91	6.48	13.43	15.95	16.22	0.990	0.511	0.811
2004	16.99	14.9	17.57	10.13	11.55	12.72	16.15	0.994	0.501	0.793
2008	25.42	17.22	17.18	11.57	9.77	8.76	10.08	0.975	0.535	0.748
2012	25.21	14.79	12.68	13.45	10.36	10.58	12.94	0.982	0.520	0.796

Table 4.23. Frequency Distribution and Polarization/Dispersion Indices for Political Ideology, 1974- 2014 (polviews: GSS).

Year	Extr Lib	Lib	Slight Lib	Mod	Slight Con	Con	Extr Con	*IQV*	*RQ*	*IOV*
1974	1.56	14.26	14.68	40	15.67	11.35	2.48	0.886	0.659	0.475
1975	3.29	12.81	14.03	40.01	16.61	10.74	2.51	0.890	0.649	0.484
1976	2.21	13.35	13.28	39.9	15.77	13.56	1.93	0.888	0.656	0.482
1977	2.55	11.63	14.73	38.82	17.27	12.32	2.68	0.896	0.648	0.483
1978	1.53	9.9	16.79	38.26	18.33	13.1	2.09	0.892	0.663	0.461
1980	2.52	8.47	14.56	40.73	18.05	12.6	3.08	0.882	0.660	0.465
1982	2.76	11.44	15.35	39.91	13.51	13.17	3.85	0.894	0.641	0.498
1983	2.08	8.7	12.73	41.43	18.44	14.03	2.6	0.875	0.669	0.459
1984	2.06	9.43	12.55	40.28	19.57	13.19	2.91	0.882	0.664	0.465
1985	2.39	11.15	11.7	38.71	18.54	14.64	2.87	0.895	0.650	0.488
1986	1.78	9.42	12.56	41.33	17.27	14.92	2.71	0.877	0.667	0.465
1987	2.8	13.94	13.46	38.18	16.56	12.39	2.68	0.901	0.641	0.498
1988	2.4	12.43	13.35	36.3	17.37	15.89	2.26	0.908	0.641	0.501
1989	2.77	12.34	13.25	39.25	17.06	13.45	1.87	0.892	0.652	0.484
1990	2.74	10.72	13.61	36.2	18.25	14.6	3.88	0.912	0.630	0.507
1991	2.54	10.56	14.67	40.03	14.94	14.53	2.74	0.889	0.651	0.485
1993	1.94	11.63	13.11	37.14	17.05	16.41	2.71	0.903	0.645	0.496
1994	2.47	11.39	13.13	36.44	16.39	16.6	3.58	0.911	0.633	0.512
1996	2.15	11.05	12.18	38.1	16.44	16.7	3.39	0.900	0.644	0.500
1998	2.38	13.27	13.04	36.64	16.05	15.42	3.2	0.910	0.634	0.512
2000	4.05	11.65	10.78	39.86	14.75	15.54	3.37	0.895	0.638	0.517
2002	3.53	10.74	11.95	39.22	15.7	15.78	3.08	0.897	0.641	0.506
2004	3.51	9.17	11.69	37.97	16.35	17.04	4.28	0.904	0.634	0.515
2006	3.21	12.09	11.93	38.84	14.26	15.81	3.85	0.901	0.634	0.519
2008	3.57	12.42	11.43	38.28	13.86	16.92	3.52	0.904	0.633	0.526
2010	3.85	13.13	11.76	37.81	13.43	15.97	4.05	0.909	0.624	0.536
2012	4.32	13.02	11.1	38.05	14.3	15.58	3.63	0.908	0.626	0.534
2014	3.84	12.41	10.74	40.38	13.64	14.62	4.37	0.894	0.634	0.524

Table 4.24. Frequency Distribution and Polarization/Dispersion Indices for Political Ideology, 1972- 2012 (vcf0803: ANES).

Year	Extr Liberal	Lib	Slight Lib	Mod	Slight Con	Con	Extr Cons	*IQV*	*RQ*	*IOV*
1972	2.07	10.08	13.7	37.4	20.8	14.21	1.74	0.895	0.661	0.468
1974	2.09	13.32	10.62	37.77	17.93	16.1	2.18	0.898	0.653	0.497
1976	1.93	9.76	11.75	37.32	18.79	17.07	3.39	0.900	0.650	0.490
1978	2.27	10.7	13.45	36.52	18.47	15.48	3.11	0.907	0.640	0.496
1980	2.49	9.26	13.55	30.58	21.02	19.82	3.29	0.927	0.626	0.515
1982	2.12	9.03	11.71	34.89	19.84	18.95	3.46	0.909	0.644	0.498
1984	2.32	10.35	12.93	33.44	20.13	18.52	2.32	0.916	0.640	0.502
1986	1.47	7.96	14.21	36.93	20.15	17.27	2.02	0.894	0.667	0.463
1988	2.46	7.86	13.05	31.3	21.68	19.51	4.14	0.923	0.630	0.509
1990	2.05	10.78	12.07	36.52	20.8	14.65	3.11	0.903	0.647	0.488
1992	2.74	11.51	13.38	31.36	20.34	17.16	3.51	0.931	0.616	0.526
1994	1.79	8.21	10	34.14	18.71	23.14	4	0.906	0.654	0.501
1996	1.81	9.78	14	30.25	19.94	20.92	3.31	0.927	0.628	0.515
1998	2.95	8.94	12.48	36.44	19.74	16.21	3.24	0.906	0.642	0.496
2000	2.53	11.44	12.63	31.95	16.79	20.8	3.86	0.928	0.619	0.537
2002	1.85	14.54	10.84	27.31	14.94	25.3	5.22	0.937	0.610	0.575
2004	2.93	12.17	11.09	32.28	15.76	21.85	3.91	0.926	0.620	0.548
2008	4.31	14.15	11.56	31.61	14.64	19.13	4.61	0.939	0.596	0.575
2012	3.68	12.04	12.09	34.49	14.89	18.89	3.92	0.923	0.616	0.545

Table 4.25. Frequency Distribution and Polarization/Dispersion Indices for Views on the Most Important National Problem, 1960- 2000 (vcf0875: ANES).

Year	Agric	Econ	Foreign/ Defense	Gov func	Labor	Natural Res	Public Order	Racial Problems	Welfare	*IQV*	*RQ*	*IOV*
1960	6.27	8.26	62.49	0.38	2.18	0.19	0.09	5.41	14.72	0.645	0.713	0.573
1964	2.35	8.13	37.61	2.97	0.78	0.31	3.67	20.02	24.16	0.845	0.694	0.773
1966	0.42	15.18	56.66	3.54	1.43	0.42	3.2	7.93	11.21	0.714	0.712	0.562
1968	0.93	6.43	50.56	1.72	0.53	0.2	18.69	8.95	11.99	0.768	0.716	0.656
1970	0.97	13.3	35.6	2.56	0.9	4.99	19.81	5.06	16.83	0.880	0.630	0.717
1972	0	21.63	33.9	4.63	0.1	2.82	19.62	6.54	10.76	0.879	0.643	0.782
1974	1.79	68.08	4.91	9.22	0.46	1	6.7	0.4	7.43	0.579	0.671	0.474
1976	0.75	44.6	5.11	3.79	0.46	1.49	8.15	0.8	34.85	0.752	0.799	0.852
1978	0.28	72.64	7.39	3.3	0.42	0.79	5.11	0.6	9.48	0.511	0.645	0.467
1980	0.37	46.48	32.1	2.45	0.07	2.15	1.48	0.07	14.83	0.740	0.822	0.556
1982	1.26	25.18	21.57	1.92	0.07	0.22	2.51	0.07	47.19	0.749	0.811	0.852
1984	1.01	33.99	33.48	2.36	0.28	1.12	4.04	0.39	23.31	0.805	0.780	0.713
1986	2.82	25.38	26.67	3.63	0.1	1.1	13.58	0.57	26.15	0.872	0.675	0.796
1988	0.66	39.35	9.72	1.57	0.12	4.95	20.82	0.84	21.97	0.834	0.708	0.795
1990	0.17	25.21	34.97	2.76	0.06	6.6	12.8	0.51	16.92	0.859	0.680	0.696
1992	0.26	42.5	3.15	2.15	0.05	1.68	11.86	1.26	37.09	0.749	0.819	0.857
1994	0	18.88	4.84	4.07	0	1.24	38.35	0.71	31.92	0.800	0.772	0.788
1996	0	20.21	4.38	3.73	0	2.57	28.57	2.96	37.58	0.823	0.735	0.824
1998	0.6	13.63	10.61	10.96	0	0.52	20.97	3.62	39.09	0.855	0.664	0.744
2000	0	15.27	11.25	5.17	0.11	2.64	22.27	1.03	42.25	0.824	0.704	0.842

Table 4.26. Frequency Distribution and Polarization/Dispersion Indices for Views on the Most Desirable Goal for the Nation, 1972- 1992 (vcf9019: ANES).

Year	Order	Power of People	Fight rising prices	Protect Free Speech	*IQV*	*RQ*	*IOV*
1972	37.39	25.02	28.07	9.51	0.946	0.797	0.740
1976	33.48	18.58	32.83	15.11	0.964	0.778	0.801
1980	23.97	14.6	45.46	15.98	0.919	0.784	0.738
1984	28.89	27.51	23.17	20.42	0.994	0.755	0.818
1988	32.18	27.93	20	19.89	0.985	0.761	0.823
1992	33.59	35.45	15.39	15.57	0.951	0.786	0.758

Table 4.27. Frequency Distribution and Polarization/Dispersion Indices for Presidential Approval, 1980- 2012 (vcf0451: ANES).

Year	Strongly Approve	Not Strongly	Not Strongly	Strongly Disapprove	*IQV*	*RQ*	*IOV*
1980	13.41	27.1	22.21	37.28	0.903	0.774	0.831
1982	26.86	24.18	14.61	34.35	0.914	0.769	0.921
1984	35.29	28.08	15.14	21.49	0.911	0.770	0.861
1986	35	29.07	12.1	23.82	0.903	0.780	0.869
1988	33.23	26.58	15.21	24.97	0.919	0.764	0.889
1990	28.64	36.34	14.98	20.03	0.905	0.773	0.819
1992	14.79	28.08	20.81	36.31	0.905	0.774	0.847
1994	19.05	32.05	19.29	29.61	0.921	0.762	0.862
1996	33.55	34.68	11.74	20.04	0.893	0.788	0.816
1998	47.23	26.46	8.5	17.8	0.836	0.806	0.783
2000	43.01	24.54	9.35	23.09	0.869	0.794	0.861
2002	48.19	21.62	10.95	19.25	0.842	0.788	0.827
2004	33.73	17.2	11.61	37.46	0.879	0.798	0.958
2008	9.63	13.33	15.43	61.61	0.740	0.745	0.686
2012	37.72	19.09	10.49	32.7	0.891	0.781	0.943

Table 4.28. Frequency Distribution and Polarization/Dispersion Indices for Views on the Courts' Treatment of Criminals, 1972- 2014 (courts: GSS).

Year	Too Harsh	About Right	Not Harsh Enough	*IQV*	*RQ*	*IOV*
1972	7.31	18.45	74.23	0.614	0.699	0.518
1973	5.01	14.45	80.53	0.492	0.586	0.409
1974	6.05	10.37	83.57	0.431	0.511	0.388
1975	4.42	10.44	85.13	0.394	0.478	0.338
1976	3.35	10.53	86.12	0.369	0.456	0.304
1977	3.6	8.52	87.87	0.329	0.406	0.283
1978	2.76	7.67	89.57	0.287	0.359	0.241
1980	3.48	8.13	88.39	0.316	0.392	0.272
1982	5.45	8.29	86.27	0.369	0.445	0.340
1983	3.81	6.76	89.44	0.291	0.361	0.262
1984	3.15	11.52	85.33	0.387	0.478	0.311
1985	3.53	9.36	87.11	0.347	0.428	0.293
1986	3.18	8.27	88.54	0.312	0.388	0.265
1987	4.44	12.74	82.82	0.444	0.536	0.369
1988	4.05	10.31	85.63	0.382	0.466	0.324
1989	2.81	9.24	87.95	0.326	0.407	0.266
1990	3.61	9.52	86.87	0.353	0.434	0.298
1991	4.26	11.8	83.94	0.420	0.509	0.351
1993	3.58	10.33	86.09	0.370	0.456	0.308
1994	2.75	7.96	89.29	0.293	0.368	0.245
1996	5.02	11.52	83.46	0.431	0.517	0.371
1998	6.62	14.08	79.3	0.521	0.605	0.452
2000	8.17	17.04	74.78	0.607	0.685	0.527
2002	9.81	18.68	71.52	0.666	0.731	0.584
2004	9.62	21.33	69.05	0.703	0.767	0.601
2006	9.9	22.63	67.47	0.726	0.786	0.617
2008	11.88	20.76	67.36	0.734	0.779	0.649
2010	14.22	18.17	67.61	0.735	0.770	0.682
2012	15.14	21.38	63.48	0.793	0.810	0.721
2014	16.27	20.94	62.79	0.803	0.814	0.740

Table 4.29. Frequency Distribution and Polarization/Dispersion Indices for Views on Foreign Aid Spending, 1990- 2008 (vcf0892: ANES).

Year	Increase	Same	Decrease	*IQV*	*RQ*	*IOV*
1990	4.17	31.06	64.77	0.723	0.864	0.536
1996	5.28	35.41	59.31	0.780	0.907	0.583
2000	9.19	44.92	45.89	0.869	0.931	0.664
2002	9.26	44.62	46.12	0.869	0.931	0.665
2004	12.55	42.34	45.1	0.902	0.915	0.715
2008	12.11	43.9	43.99	0.899	0.918	0.706

Table 4.30. Frequency Distribution and Polarization/Dispersion Indices for Views on Sex with a Person Other Than Spouse, 1973- 2014 (xmarsex: GSS).

Year	Always Wrong	Almost always	Sometimes	Not wrong	*IQV*	*RQ*	*IOV*
1973	69.6	14.8	11.6	4.1	0.6392	0.7174	0.5111
1974	74.1	11.9	11.6	2.5	0.5636	0.6681	0.4488
1976	68.7	15.6	11.5	4.3	0.6521	0.7265	0.5181
1977	73.1	13.6	10.1	3.2	0.5820	0.6804	0.4574
1980	70.5	15.9	9.9	3.7	0.6220	0.7123	0.4809
1982	73.2	13.0	10.7	3.1	0.5798	0.6777	0.4604
1984	70.6	18.2	8.9	2.3	0.6132	0.7257	0.4388
1985	74.9	16.7	8.6	2.8	0.5501	0.6584	0.4228
1987	73.3	14.7	9.3	2.7	0.5752	0.6817	0.4359
1988	79.3	13.0	5.6	2.1	0.4669	0.5925	0.3403
1989	78.2	12.9	7.3	1.7	0.4882	0.6114	0.3575
1990	78.8	12.8	7.0	1.4	0.4773	0.6028	0.3450
1991	76.6	13.7	6.5	3.2	0.5198	0.6343	0.3981
1993	77.4	14.4	5.7	2.5	0.5017	0.6275	0.3654
1994	78.5	12.6	6.6	2.3	0.4845	0.6040	0.3641
1996	77.9	15.1	5.2	1.9	0.4904	0.6256	0.3413
1998	79.3	12.5	5.8	2.4	0.4682	0.5899	0.3497
2000	79.4	10.9	7.1	2.6	0.4687	0.5827	0.3682
2002	79.9	13.7	4.3	2.1	0.4534	0.5862	0.3210
2004	80.8	12.1	5.0	2.1	0.4388	0.5633	0.3225
2006	80.1	12.0	6.1	1.8	0.4534	0.5764	0.3339
2008	81.9	10.8	5.7	1.5	0.4180	0.5404	0.3066
2010	78.2	13.3	6.4	2.1	0.4878	0.6114	0.3574
2012	79.9	12.1	6.8	1.3	0.4562	0.5822	0.3289
2014	78.3	13.2	7.7	2.5	0.4859	0.6106	0.3531