

# Issues vs. Affect: How Do Elite and Mass Polarization Compare?

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## Abstract

Conventional wisdom holds that political elites harbor more ideologically constrained issue attitudes and are more polarized on such issues than their mass counterparts. Rather, the mass public is more polarized in their emotional reactions to political stimuli. How affective polarization among the mass public compares to affective polarization among elites is, however, an open question. Using items common to the Convention Delegate Studies and American National Election Studies, I compare the mass public to political elites when it comes to both affective and ideological polarization. I find that elites are more affectively polarized than the mass public, and more affectively polarized than they are ideologically polarized, although mass affective polarization has increased over time. These findings provide context for understanding the extent to which the mass public has affectively polarized, and demonstrate that elites, despite ideological capabilities, exhibit extreme emotional reactions toward political groups just like their mass counterparts.

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**Data and Replication Materials:** Data and supporting materials necessary to reproduce the numerical results in the article are available in the *JOP* Dataverse (<https://dataverse.harvard.edu/dataverse/jop>). An online appendix with supplementary material is available at [insert link to paper on JOP website].

Perhaps one of the most important and widely-agreed upon findings in American political behavior research in the past thirty years is that political elites have polarized. Oftentimes using roll call votes (e.g., McCarty, Poole & Rosenthal 2006), but leaving room for plenty of other creative approaches (e.g., Layman, Carsey, Green, Herrera & Cooperman 2010), scholars have consistently produced empirical support for the increasing ideological distance between the two major parties. Whether such is the case among the mass public has been the subject of some debate. While some argue that mass ideological polarization has significantly increased over time (e.g., Abramowitz & Saunders 2008), others find little empirical support for widespread issue polarization among the mass public (Fiorina, Abrams & Pope 2011).

Over the past few years, scholars have converged on affective polarization – a variant of polarization based in group identities and emotional reactions to political stimuli – as a more accurate description of the increasingly extreme, negative reactions to the out-party observed in contemporary mass politics. This explanation for partisan divisions in the mass public has intuitive appeal: even though the average individual does not reason about the political world in particularly ideologically sophisticated way, they surely have gut reactions about the other team and those associated with it. Intuitive appeal and evidence for increasing dislike of the “other” notwithstanding, I argue that our understanding of the nature and level of mass affective polarization remains incomplete.

To see why, consider the definition of polarization offered by DiMaggio and colleagues (1996). They aptly noted that polarization is both a state and a process. As a *process*, polarization can be *partially* understood in the context of itself – previous values of attitudinal or affective divergence by partisanship or ideological self-identifications over time. Of course, this still leaves open what a “meaningful” or otherwise “significant” increase in polarization might entail. Is, for instance, an average 18-point divergence in party feeling thermometer scores over the course of forty years sufficiently worrisome (Iyengar, Lelkes, Levendusky, Malhotra & Westwood 2019)? As a *state*, polarization can *only* be understood using some sort of relative comparison – a baseline. While a given distribution might look somewhat bimodal,

or two means along an attitudinal scale might appear fairly divergent, some yardstick is necessary for more completely and carefully making such determinations.

Traditionally, elites have served as this yardstick. Mass-elite comparisons are precisely how we know that mass ideological constraint is “low,” rather than “middling” or even “high.” Same goes for knowledge, political sophistication, and even ideological polarization (e.g., Hill & Tausanovitch 2015, Jennings 1992, Layman et al. 2010). In this manuscript, I compare mass and elite polarization over time, focusing on affective polarization, but also considering ideological polarization. These comparisons will help achieve three goals. First, the comparison of elite and mass affective polarization will allow us to better contextualize observed increases in mass affective polarization over time. Mass affective polarization – because of the social identity basis of affective polarization – could very well be similar to, or even greater than, elite affective polarization. Or, perhaps, mass affective polarization is negligible compared to elite affective polarization, as researchers oftentimes find is the case with ideological polarization. This is the central concern of the manuscript.

Second, an understanding of elite affective polarization relative to mass affective polarization will shed some light on the precise nature of affective polarization. Is affective polarization a uniquely mass phenomenon, or are elites polarized in this way as well? On the one hand, we know that elites are – somewhat tautologically – more capable of ideological reasoning than average individuals. It stands to reason, then, that ideological polarization would find more support among the elite political class than the mass public. On the other hand, ideological capabilities may not necessarily preclude emotional reactions and group biases from influencing elite preferences and behaviors or take precedence over such processes. Indeed, foundations of mass affective polarization have been found in both ideological identities (Mason 2018) and ideological policy commitments (Rogowski & Sutherland 2016, Webster & Abramowitz 2017). The comparisons at the heart of my analyses will speak to these alternatives.

Finally, pairwise comparisons between the masses and elites when it comes to both ide-

ological and affective polarization will clarify potential connections between the variants of polarization. Are mass affective and ideological polarization rising at similar rates, just from different starting levels? Even though we know that elites are ideologically polarized, has affective polarization followed, lead, or tracked this trend? Lee (2016) argues that the increasingly competitive circumstances in which the two major parties interact with each other and fight for the hearts and minds of constituents has driven much of the elite polarization captured by measures of elite preferences, such as DW-Nominate. This battle over the decreasing proportion of persuadable votes necessary to tip the electoral balance in favor of one party candidate over another promotes the increasingly negative affective, out-group-centric appeals at the center of elite messaging (Lee 2016). Perhaps, then, elite affective polarization is greater than elite ideological polarization? In the following section, I discuss an empirical strategy for making the comparisons necessary to answer these questions.

## **Data & Analytical Strategy**

Unlike previous work that compares mass and elite ideological polarization (e.g., Hill & Tausanovitch 2015, Jessee 2016), I cannot rely on roll call votes or survey-based attempts to simulate elite preferences in the mass public to estimate affective polarization. Fortunately, the Convention Delegate Study (CDS) – a survey of delegates to the Democratic and Republican national nominating conventions reaching back to 1972<sup>1</sup> – contains survey items that perfectly mirror those appearing on the American National Election Study. The CDS has successfully been used to estimate the attitudes and feelings of political elites for decades (Jennings 1992, Layman et al. 2010). Layman and colleagues described the convention delegates as the “most active and visible participants in party politics” (2010, 330). Similarly, Jennings concludes that, “Almost by definition, and most assuredly according to their self-reports, the delegates are superactivists” (423). Finally, many convention delegates hold,

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<sup>1</sup>The CDS was conducted during the 1972, 1980, 1984, 1988, 1992, 2000, 2004, and 2012 national election cycles. A 2016 CDS survey was conducted, but the data has not yet been made publicly available. The 2012 CDS did not include a question about officeholder status, so quantities that I present below end in 2004 for elites.

or previously held, public office – these are the individuals to which I restrict my analyses below.<sup>2</sup>

Both the CDS and ANES surveys ask respondents – *in identical formats* – about their feelings toward national parties, presidential candidates, and ideological groups, as well as attitudes about public policy issues such as spending on governmental services and defense, governmental aid to blacks, and abortion.<sup>3</sup> The former set of questions are the most frequent empirical basis for investigations of affective polarization (e.g., Iyengar et al. 2019), while the latter set are frequently used to assess mass ideological polarization (e.g., Abramowitz & Saunders 2008, Fiorina, Abrams & Pope 2011). Unlike most previous attempts at estimating a conceptual space shared by mass and elite individuals, I employ data that is precisely identical for both strata. Identical data helps relax assumptions regarding the ability of different data sources to estimate the same substantive quantities or dimensions.

To more appropriately and accurately compare the mass public with political elites, I follow previous work operating in the “joint scaling” tradition (e.g., Hill & Tausanovitch 2015, Jessee 2016) by employing an (ordinal, in this case) item response theory (IRT) model to estimate elite and mass ideal points – latent positions – along shared ideological and affective attitudinal dimensions.<sup>4</sup> Although I focus below on quantities produced using these ideal

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<sup>2</sup>The granularity of publicly available information about delegate employment varies considerably over time. From 1972-1992, the only accessible information categorizes respondents as current or former federal officeholders, or not. In 2000, I can decipher whether respondents were officeholders, though not at which level. Finally, the 2004 CDS data contains information about officeholder status by level of government. Though not strictly comparable over time because of the 2000 CDS, I restrict analyses to current and previous federal officeholders.

<sup>3</sup>A table of all items employed in the analyses below, including which years such items are available, appears in the Supplemental Appendix. In total, there are 26,729 ANES respondents and 11,488 CDS respondents who held public office across all years with at least some complete issue and thermometer data available.

<sup>4</sup>The model takes the following general form:

$$Pr(Y_{ij} \leq k|\theta_i) = \frac{\exp\{\alpha_j(\theta_i - b_{jk})\}}{1 + \exp\{\alpha_j(\theta_i - b_{jk})\}} \quad \theta_i \sim N(0, 1)$$

The discrimination parameter for item  $j$  is denoted by  $\alpha_j$ , threshold parameters/cutpoints of cumulative densities between each of the  $g_j + 1$  response categories of item  $j$  are denoted by  $b_{jk}$ , and the ideal points are denoted by  $\theta_i$ . The model is estimated via maximum likelihood, and ideal points are estimated using an empirical Bayes estimator. Model parameters appear in the Supplemental Appendix.

points, I present several robustness checks in the Supplemental Appendix. These analyses include: 1) party differences on all individual items that are used to estimate ideal points, 2) a replication of all analyses below using additive index operationalizations of ideology and affective orientations, and 3) a series of joint scaling robustness checks, as recommended by Jessee (2016).<sup>5</sup>

## Empirical Results

In Figure 1, I plot the distribution of ideal points in 2004 – the most recent year for which CDS and ANES data are both available – for Democratic and Republican self-identifiers by political stratum.<sup>6</sup> First, as previous research would lead one to expect, it is visually apparent that elite ideological polarization is greater than mass ideological polarization (subfigure A). Where there is significant overlap between the distribution of Democratic (blue) and Republican identifiers’ (red) ideal points in the mass public, there is noticeably less overlap among party elites. Moving to subfigure B, it is similarly visually apparent that elite affective polarization is greater than mass affective polarization. Though the distributions of mass public Democratic and Republican affective ideal points are concentrated slightly more toward their respective poles of the dimension than they were in subfigure A, there is an even greater party separation for elites. I can also compare types of polarization within political strata since the ideal points were constrained to be on the same scale. Doing this, it is visually apparent that affective polarization is greater than ideological polarization for elites, just as it is for the mass public.

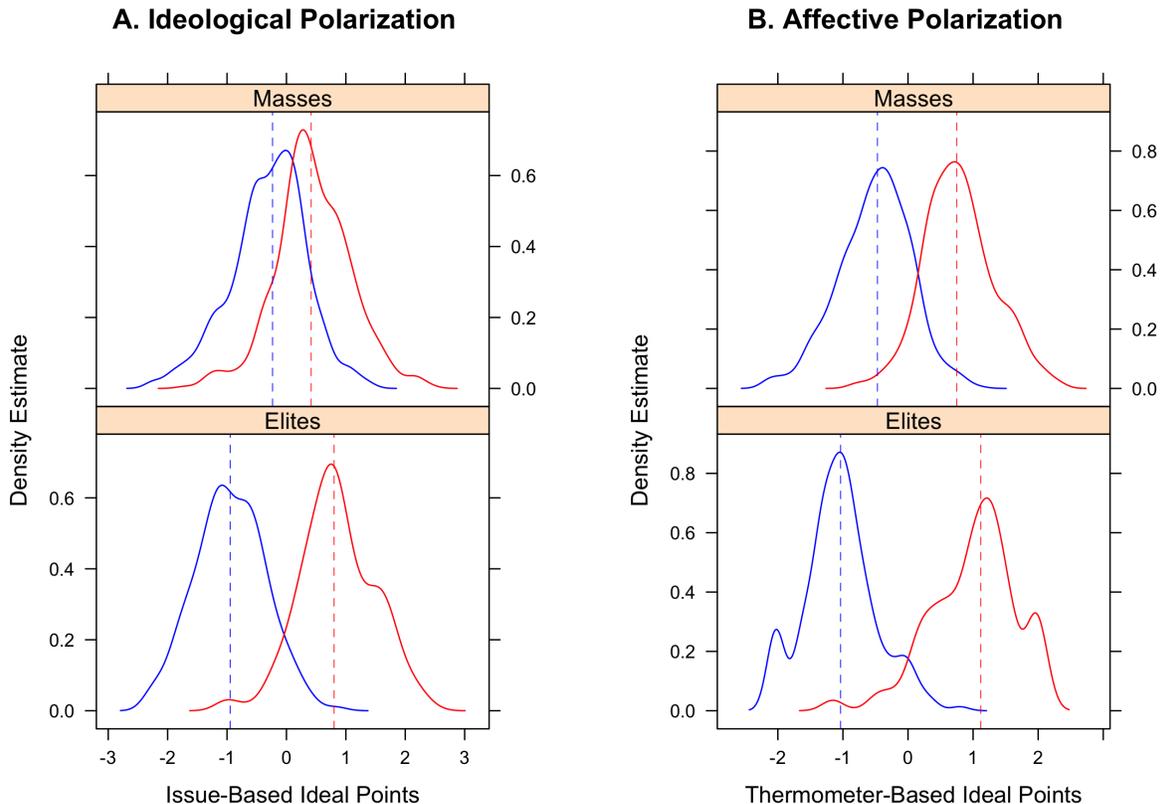
During at least one particular point in time, elites are both more ideologically and affectively polarized than the mass public. One might reasonably infer, then, that the mass public is less polarized than elites generally, not just when it comes to ideological polarization. This

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<sup>5</sup>I also considered a factor analytic measure of latent ideological and affective orientations. The correlation between the IRT-estimated latent dimension and common factor model-estimated latent dimension (using the method of iterated principal axis factoring) is 0.989 and 0.981, for feelings and issue attitudes respectively. Moreover, none of the analyses presented below are substantively different using predicted factor scores.

<sup>6</sup>We note, however, that the substantive inferences we make are not confined to this particular year, and that we formally test differences in mass and elite polarization over time below.

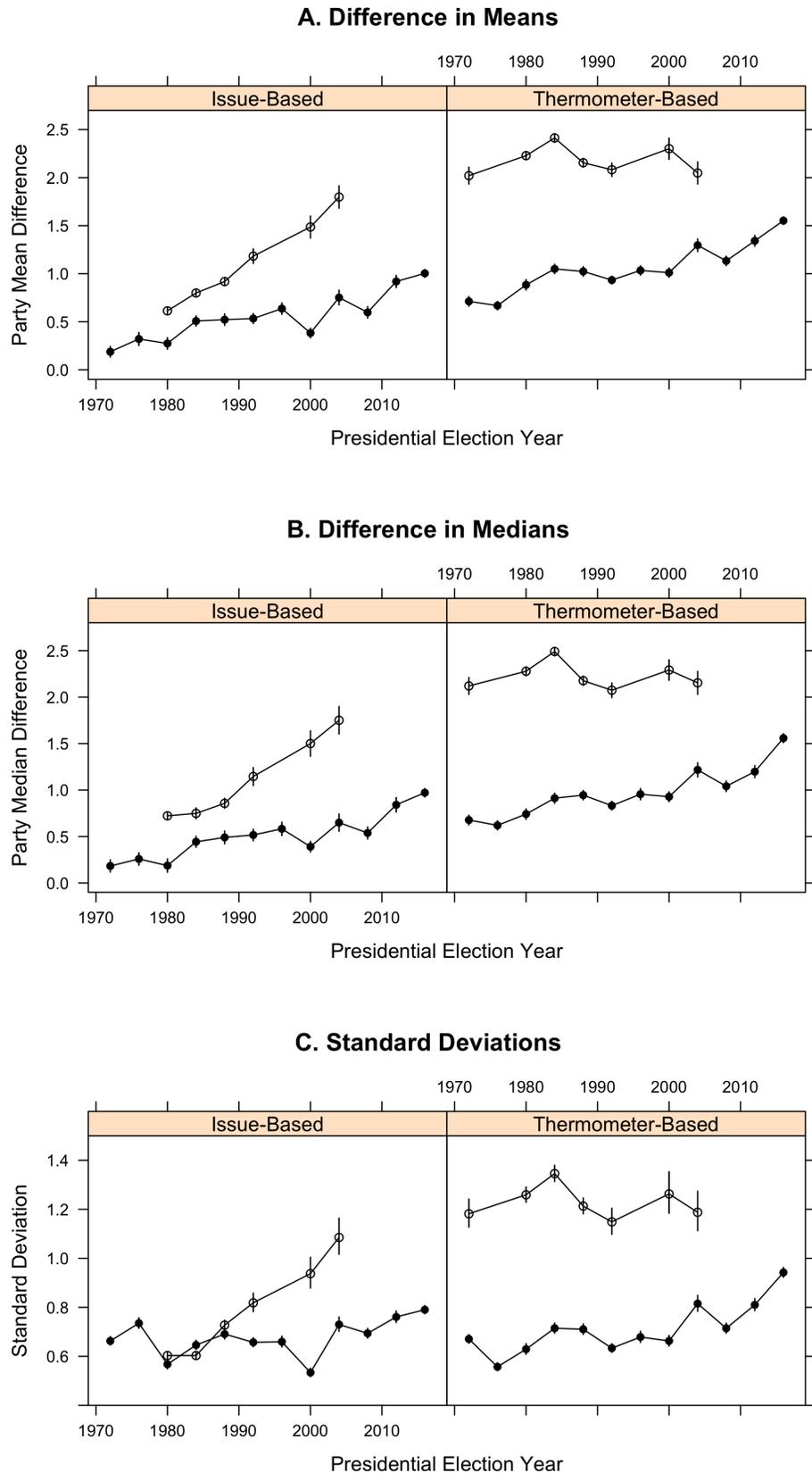
**Figure 1:** Distribution of issue- and thermometer-based ideal points by political stratum. Dashed lines represent party medians.



empirical snapshot cannot, however, reveal whether and to what extent the mass public is *polarizing* over time – equally important components to the broader polarization story. In order to investigate temporal dynamics across political strata and polarization types, I plot three types of quantities that each operationalize polarization in Figure 2. Mean and median party differences in panels A and B reflect average differences between party elites, and standard deviations reflect variation – which should increase with distributional bimodality – in ideal points.

In almost all cases, I observe a statistically significant difference between the mass public and political elites, across polarization types, years, quantities of interest. The exceptions are in standard deviations of ideological ideal points in 1980-1988. Even when it comes to affective polarization, elites are more polarized than the masses. I also observe that elites are more affectively polarized than they are ideologically polarized. Indeed, the highest

**Figure 2:** Difference in party means, in party medians, and standard deviations for issue-based and thermometer-based ideal points. Open plotting symbols correspond to elite estimates, closed to mass public. Vertical bars represent 95% confidence intervals.



levels of elite ideological polarization at the end of the time series correspond fairly neatly to the lowest levels of elite affective polarization. Despite the relative ideological capacities of elites, they appear to harbor intensely positive emotional reactions to their own party and very negative reactions toward the out-party. This divergence may be partially attributed to the ideological component of affective polarization (Rogowski & Sutherland 2016, Webster & Abramowitz 2017), which is likely larger among elites. Regardless, the patterns suggest that affective polarization is neatly tied to ideological polarization, rather being a different process entirely.

Importantly, I also observe an increase in both ideological and affective polarization among the mass public across most quantities of interest (there does not appear to be an increase in the standard deviation of mass ideological ideal points). There are, however, important dynamic differences between the mass and elite comparisons across polarization types. For instance, the differences between mass and elite ideological polarization appear to be either constant (means) or increasing (medians, standard deviations). The mass public is increasing in ideological polarization with respect to previous time points, but does not appear to be in danger of catching up with elites. On the other hand, the mass-elite gap in affective polarization appears to be closing. This is partially because elite polarization has always been quite high – about as high as standard instruments will allow it go – and has no room for upward movement. However, it is also clear that the rate of mass affective polarization has increased since about 2004, consistent with evidence others have produced (Iyengar, Sood & Lelkes 2012). Perhaps, then, the long-run theoretical importance of affective polarization is not that it differentiates the mass public from their more ideological elite counterparts; rather, differential in- and out-group affect comprise a dimension along which the previously observed polarization gap between masses and elites is being closed.

## Conclusion

Scholars have traditionally understood the level and nature of mass ideological polarization almost exclusively in the context of elite ideological polarization. The major inference that follows from this comparison of masses and elites is that mass ideological polarization is low relative to elite ideological polarization. This is a reasonable inference to make from an admittedly useful strategy. Indeed, I observe that, although mass ideological polarization has increased over time, the gap between masses and elites has remained constant, perhaps even increased. However, mass affective polarization has not been understood in the context of elite affective polarization. This leaves the literature with an incomplete understanding of how much the masses have polarized on affective grounds, and whether affective polarization is somehow unique to the less ideological and less politically sophisticated mass public. To the contrary, I find that elites are more affectively polarized than the mass public. Importantly, however, recent increases in the rate of mass affective polarization are seemingly closing the gap between the masses and elites.

These findings have a number of potential implications. That elites are more affectively polarized than the mass public, and more affectively polarized than ideologically polarized, might lead to more emotional (perhaps even *ad hominem*) polarizing cues embedded in elite messaging (Lee 2016), which, in turn, have the power to further incite mass polarization (e.g., Druckman, Peterson & Slothuus 2013). Moreover, if most public opinion is “top down,” whereby elites determine the basic nature and tone of political discourse and thought, public displays of negative emotional reactions toward political opponents on the part of elites will only further erode political civility, trust in institutions that are controlled by the out-group, and good faith engagement in the political process. This may be precisely why I observe shrinking differences between elite and mass affective polarization over time – the masses are receiving the cues and catching up. Regardless, the shrinking gap between elite and mass affective polarization – due largely to a rate increase among the masses – also signals the increasing entrenchment of mass group identities and the resultant difficulty of overcoming

in/out-group dynamics across political strata.

## Acknowledgements

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# Supplemental Appendix:

## “Issues vs. Affect: How Do Elite and Mass Polarization Compare?”

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# 1 Variable coding/wording

*Note: All source variable names listed in parentheses correspond to the 1972-2016 ANES cumulative file. We do not list source variable names for the CDS data since they are different for every year.*

**For all thermometers:** “I’d like to get your feelings toward some of our political leaders (groups) and other people who are in the news these days (1990: have been in the news). I’ll read the name of a person (group) and I’d like you to rate that person (group) using (1986-LATER: something we call) the feeling thermometer. Ratings between 50 and 100 (1986-LATER: degrees) mean that you feel favorably and warm toward the person (group); ratings between 0 and 50 degrees mean that you don’t feel favorably toward the person (group) and that you don’t care too much for that person. (1986-LATER: You would rate the person at the 50 degree mark if you don’t feel particularly warm or cold toward the person (group).) If we come to a person (group) whose name you don’t recognize, you don’t need to rate that person (group). Just tell me and we’ll move on to the next one. (1978-1984: If you do recognize the name, but you don’t feel particularly warm or cold toward the person (group), then you would rate the person (group) at the 50 degree mark.)”

- **Conservative thermometer** (VCF0212): 0-100; recoded so all categories end in 0 (11 point)
- **Liberal thermometer** (VCF0211): 0-100; recoded so all categories end in 0 (11 point)
- **Democratic Party thermometer** (VCF0218): 0-100; recoded so all categories end in 0 (11 point)
- **Republican Party thermometer** (VCF0224): 0-100; recoded so all categories end in 0 (11 point)
- **Democratic candidate thermometer** (VCF0424): 0-100; recoded so all categories end in 0 (11 point)

- **Republican candidate thermometer** (VCF0426): 0-100; recoded so all categories end in 0 (11 point)
- **Government spending and services** (VCF0839): “Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. (2004: Suppose these people are at one end of a scale, at point 1.) Other people feel that it is important for the government to provide many more services even if it means an increase in spending. (2004: Suppose these people are at the other end, at point 7. And of course, some other people have opinions somewhere in between, at points 2,3,4,5, or 6.) Where would you place yourself on this scale, or haven’t you thought much about this? (7-POINT SCALE SHOWN TO R)”
- **Defense spending** (VCF0843): “Some people believe that we should spend much less money for defense. (1996,2004: Suppose these people are at one end of a scale, at point 1.) Others feel that defense spending should be greatly increased. (1996,2004: Suppose these people are at the other end, at point 7.) (2004: And, of course, some other people have opinions somewhere in between, at points 2,3,4,5, or 6). Where would you place yourself on this scale or haven’t you thought much about this? (7-POINT SCALE SHOWN TO R)”
- **Aid to blacks** (VCF0830): “Some people feel that the government in Washington should make every (prior to 1996 only: possible) effort to improve the social and economic position of blacks. (1996-LATER: Suppose these people are at one end of a scale, at point 1). Others feel that the government should not make any special effort to help blacks because they should help themselves. (1996-LATER: Suppose these people are at the other end, at point 7. And, of course, some other people have opinions somewhere in between, at points 2,3,4,5 or 6). ALL YEARS: Where would you place yourself on this scale, or haven’t you thought much about it?”
- **Government Health Insurance** (VCF0806): “There is much concern about the rapid

rise in medical and hospital costs. Some (1988,1994-LATER: people) feel there should be a government insurance plan which would cover all medical and hospital expenses (1984 AND LATER: for everyone). (1996,2004: Suppose these people are at one end of a scale, at point 1). Others feel that (1988,1994-1996: all) medical expenses should be paid by individuals, and through private insurance (1984 AND LATER: plans) like Blue Cross (1984-1994: or [1996:some] other company paid plans). (1996,2004: Suppose these people are at the other end, at point 7. And of course, some people have opinions somewhere in between at points 2,3,4,5 or 6.) Where would you place yourself on this scale, or haven't you thought much about this?"

- **Abortion** (VCF0806): "There has been some discussion about abortion during recent years. (RESPONDENT BOOKLET) Which one of the opinions on this page best agrees with your view? You can just tell me the number of the opinion you choose."

1. By law, abortion should never be permitted.
2. The law should permit abortion only in case of rape, incest, or when the woman's life is in danger.
3. The law should permit abortion for reasons other than rape, incest, or danger to the woman's life, but only after the need for the abortion has been clearly established.
4. By law, a woman should always be able to obtain an abortion as a matter of personal choice.

- **Party identification** (ANES) (VCF0301): Standard composite measure

1. Strong Democrat
2. Weak Democrat
3. Lean Democrat

4. Independent
5. Lean Republican
6. Weak Republican
7. Strong Republican

• **Party identification (CDS):**

0. Democrat
1. Republican

## 2 ANES and CDS Data Employed in Analyses

Note: although the CDS was fielded in 2016, this data is not currently publicly available, per communications with members of the team that fielded it. Moreover, although a CDS survey was fielded in 2012, it does not contain the necessary information to stratify the sample by public officeholder status. For this reason, this year is dropped from the analyses for elites.

**Table A1:** Survey items used in analyses, with information common years available.

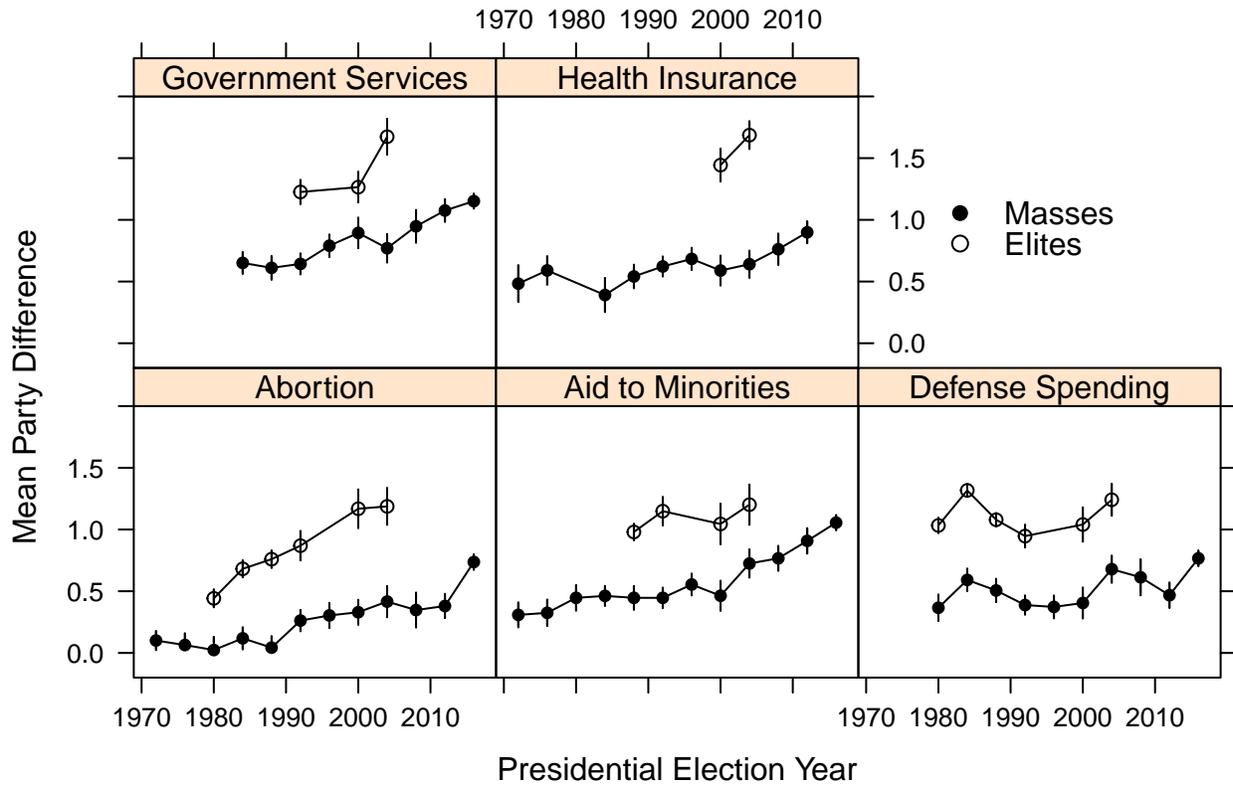
Item	Coding	Years Available	
		ANES	CDS
<b><u>Affective Items</u></b>			
Liberals Thermometer	0-100	All	'72, '80, '84, '88, '92, '00, '04,
Conservatives Thermometer	0-100	All	'72, '80, '84, '88, '92, '00, '04,
Democratic Party Thermometer	0-100	'80, '84, '88, '92, '00, '04, '12	'72, '80, '84, '88, '92, '00
Republican Party Thermometer	0-100	'80, '84, '88, '92, '00, '04, '12	'72, '80, '84, '88, '92, '00
Democratic Candidate Thermometer	0-100	All	'72, '80, '84, '88, '92, '00
Republican Candidate Thermometer	0-100	All	'72, '80, '84, '88, '92, '00
<b><u>Attitudinal Items</u></b>			
Defense Spending Attitude	1-7	'80, '84, '88, '92, '00, '04, '12	'80, '84, '88, '92, '00, '04, '12
Government Spending & Services Attitude	1-7	'84, '88, '92, '00, '04, '12	'92, '00, '04, '12
Government Aid to Blacks Attitude	1-7	'72, '84, '88, '92, '00, '04, '12	'88, '92, '00, '04, '12
Government Health Insurance Attitude	1-7	'84, '88, '92, '00, '04, '12	'00, '04, '12
Abortion Attitude	1-4	'72, '84, '88, '92, '00, '02, '12	'80, '84, '88, '92, '00, '04, '12

Note: we also use ANES surveys from 1976 and 2016 (CDS is not available these years).

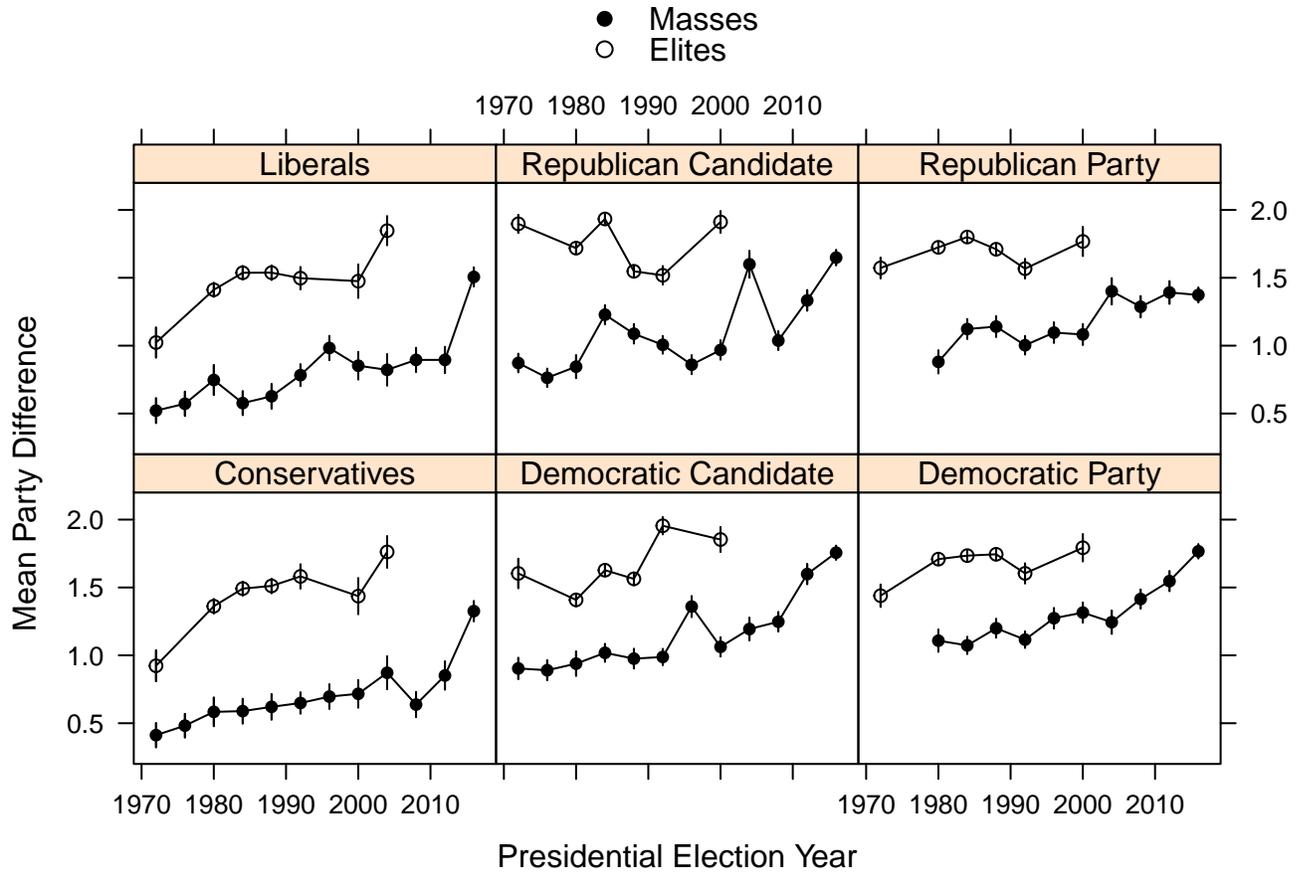
### 3 Party Differences on Individual Indicators

The following figures depict partisan differences in standardized versions of each of the variables. Variables were standardized to mean 0 and standard deviation 1 using only data from that political strata.

**Figure A1:** Average difference between self-placements of Republicans and Democrats on issue scales over time, by political stratum.



**Figure A2:** Average difference between self-placements of Republicans and Democrats on feeling thermometers over time, by political stratum.

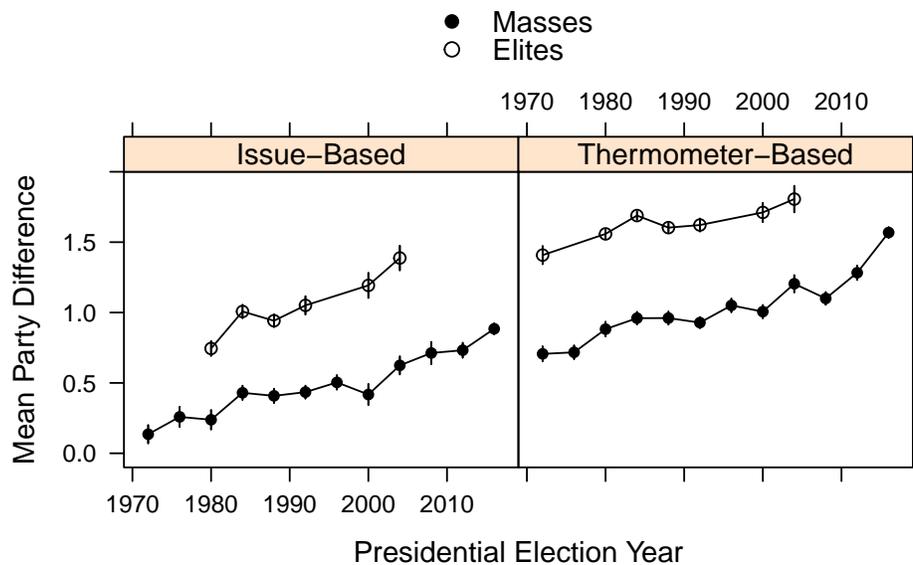


## 4 Polarization Measures Using an Additive Index

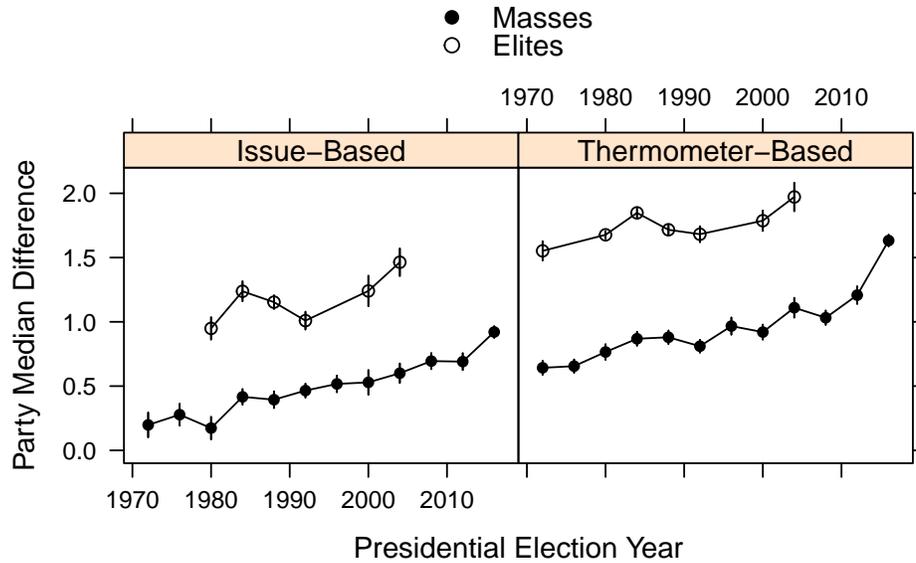
Because any joint scaling model (indeed, latent variable models, in general) requires a host of assumptions (e.g., about the comparability of item parameters across groups), here we present ideological and affective polarization using additive index operationalizations. The standardized issue scales and thermometer items presented above were simply separately summed to create indexes of issue attitudes and feelings toward political parties, ideological groups, and candidates. Then, we computed the same quantities as appear in the main text.

The correlation between the ideal point measure and the additive index measure is 0.969 for feeling thermometers and 0.903 for issue attitudes. Because of this high degree of correspondence, and as is readily apparent in the figures presented below, none of the quantities using the index-based operationalizations of polarization challenge any of the conclusions reached in the main text.

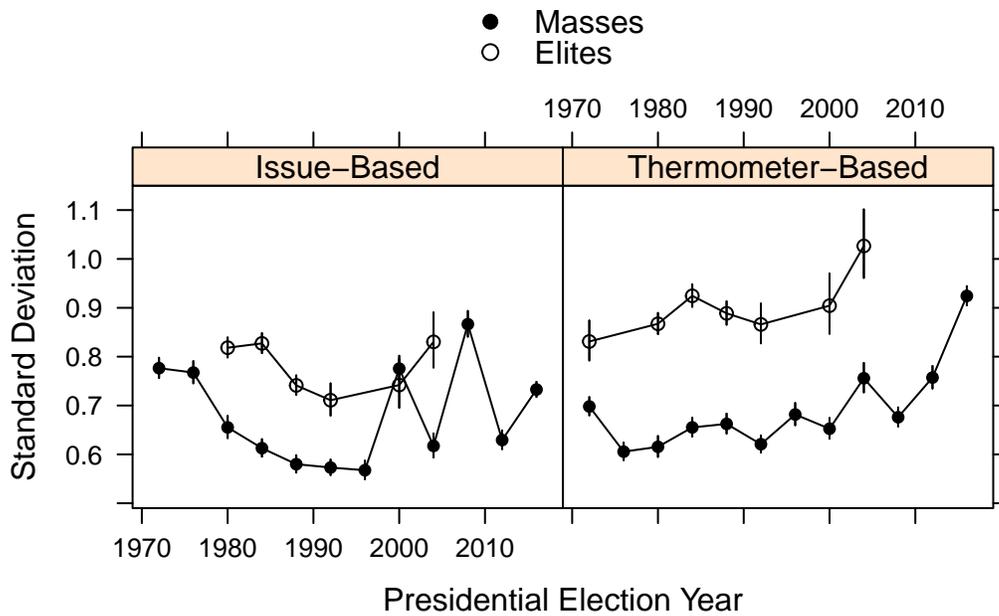
**Figure A3:** Differences in party means for issue-based and thermometer-based index measures. Vertical bars represent 95% confidence intervals.



**Figure A4:** Differences in party **medians** for issue-based and thermometer-based index measures. Vertical bars represent 95% confidence intervals.

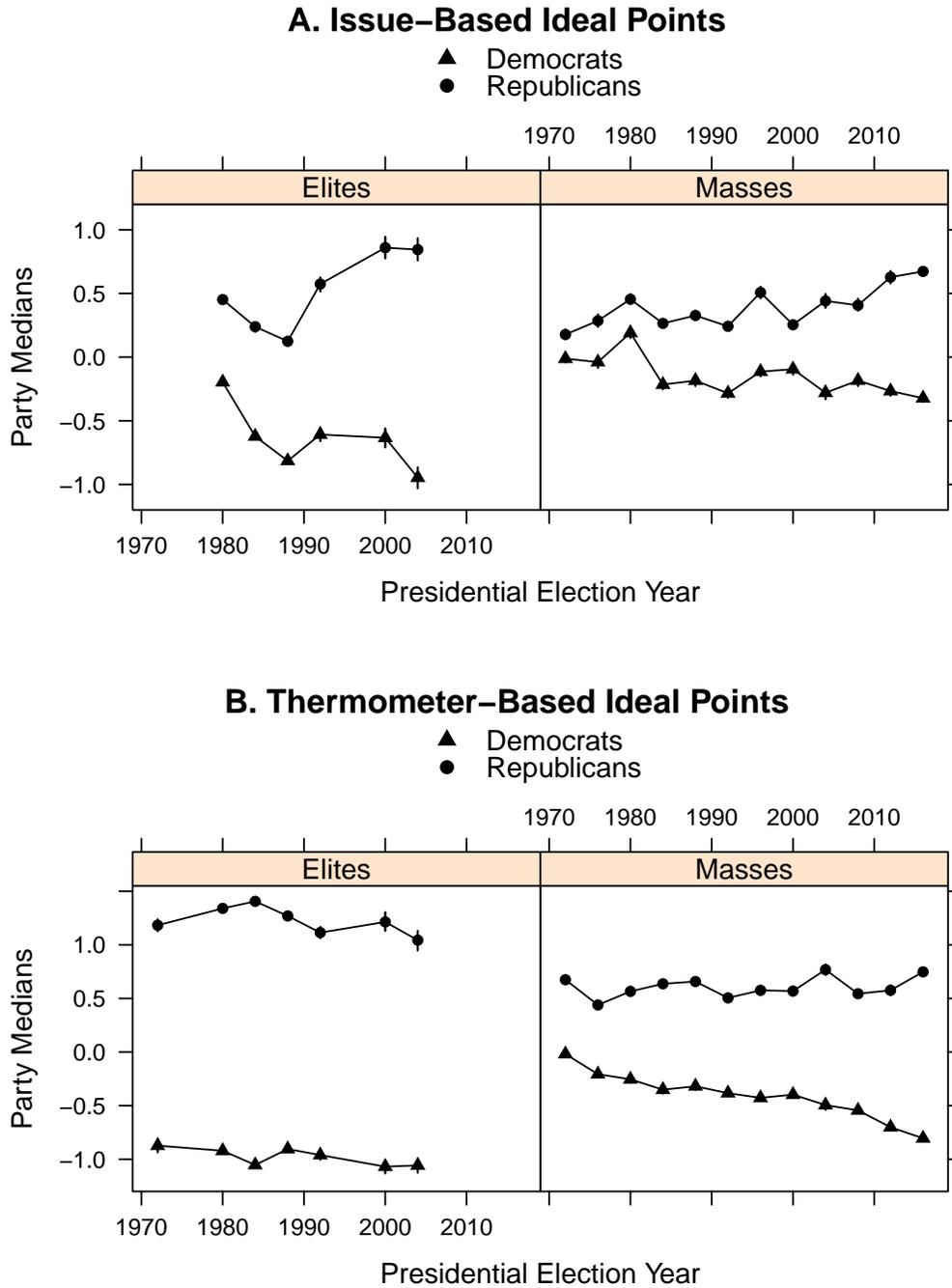


**Figure A5:** Standard deviations of issue-based and thermometer-based index measures. Vertical bars represent 95% confidence intervals.



## 5 Party Medians Over Time

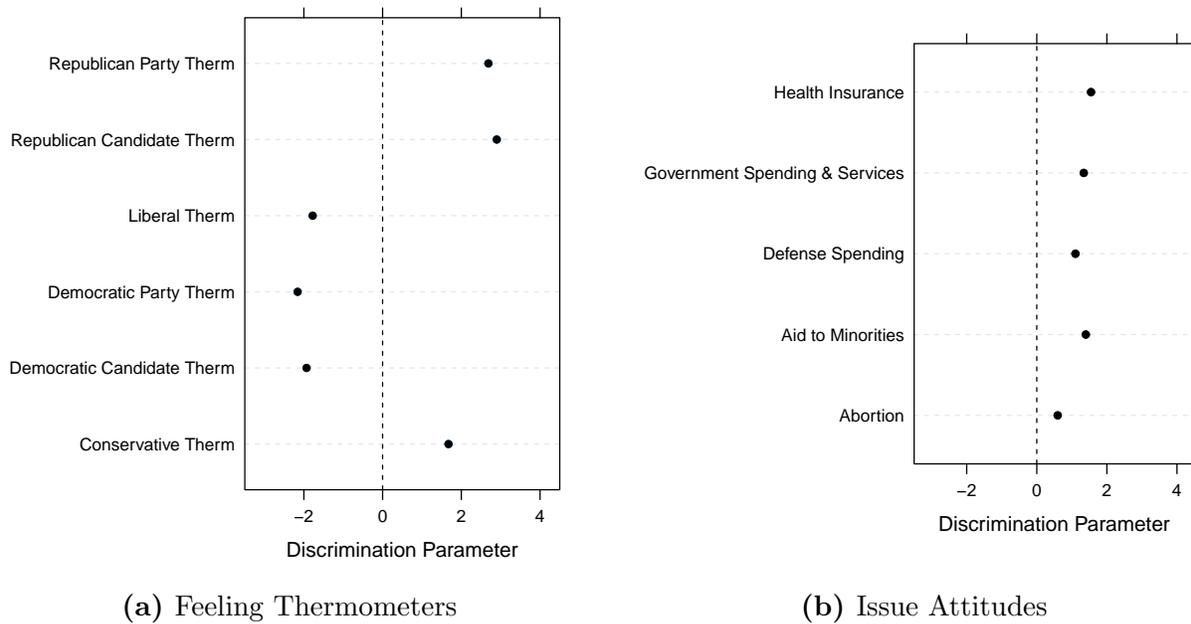
**Figure A6:** Party medians for issue-based and thermometer-based ideal points. Vertical bars represent 95% confidence intervals.



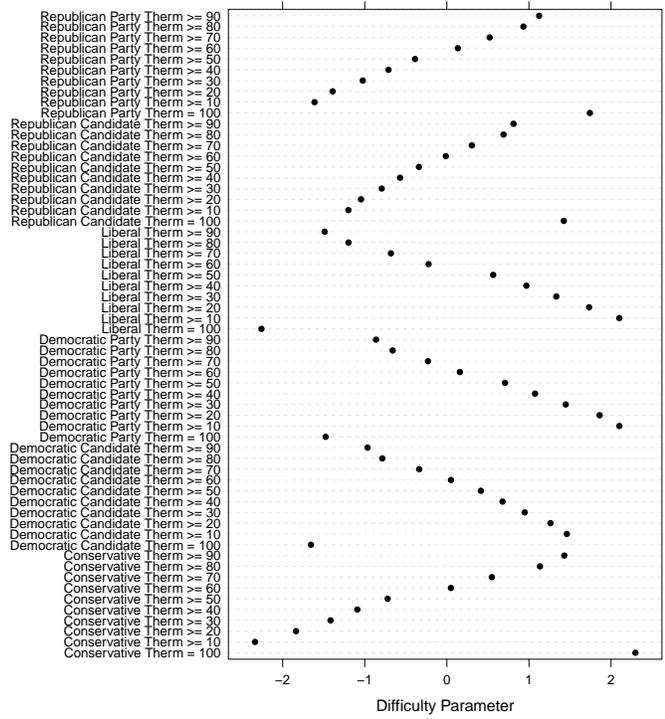
## 6 Ideal Point Model Parameters

Note that while they are quite difficult to visually perceive, owing largely to the large quantity of data we employ, 95% confidence bands do envelope each of the parameter estimates appearing in the following figure. In all cases, discrimination parameters are statistically significant. This suggests that each of the items employed in the feeling thermometer and issue attitude analyses significantly aids us in locating respondents' ideal points along the respective latent dimension.

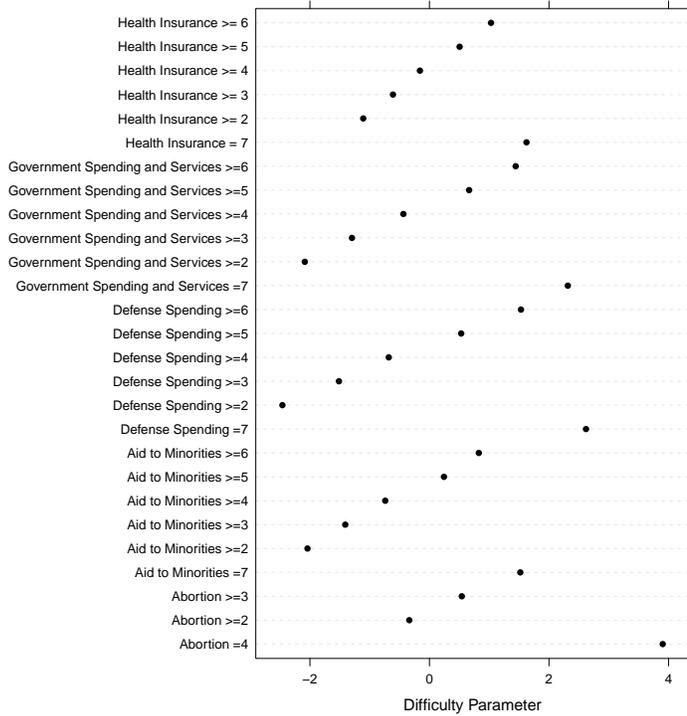
**Figure A7:** Discrimination parameters from joint ideal point estimation using feeling thermometers and issue attitudes.



**Figure A8:** Difficulty parameters from joint ideal point estimation using feeling thermometers and issue attitudes.



(a) Feeling Thermometers



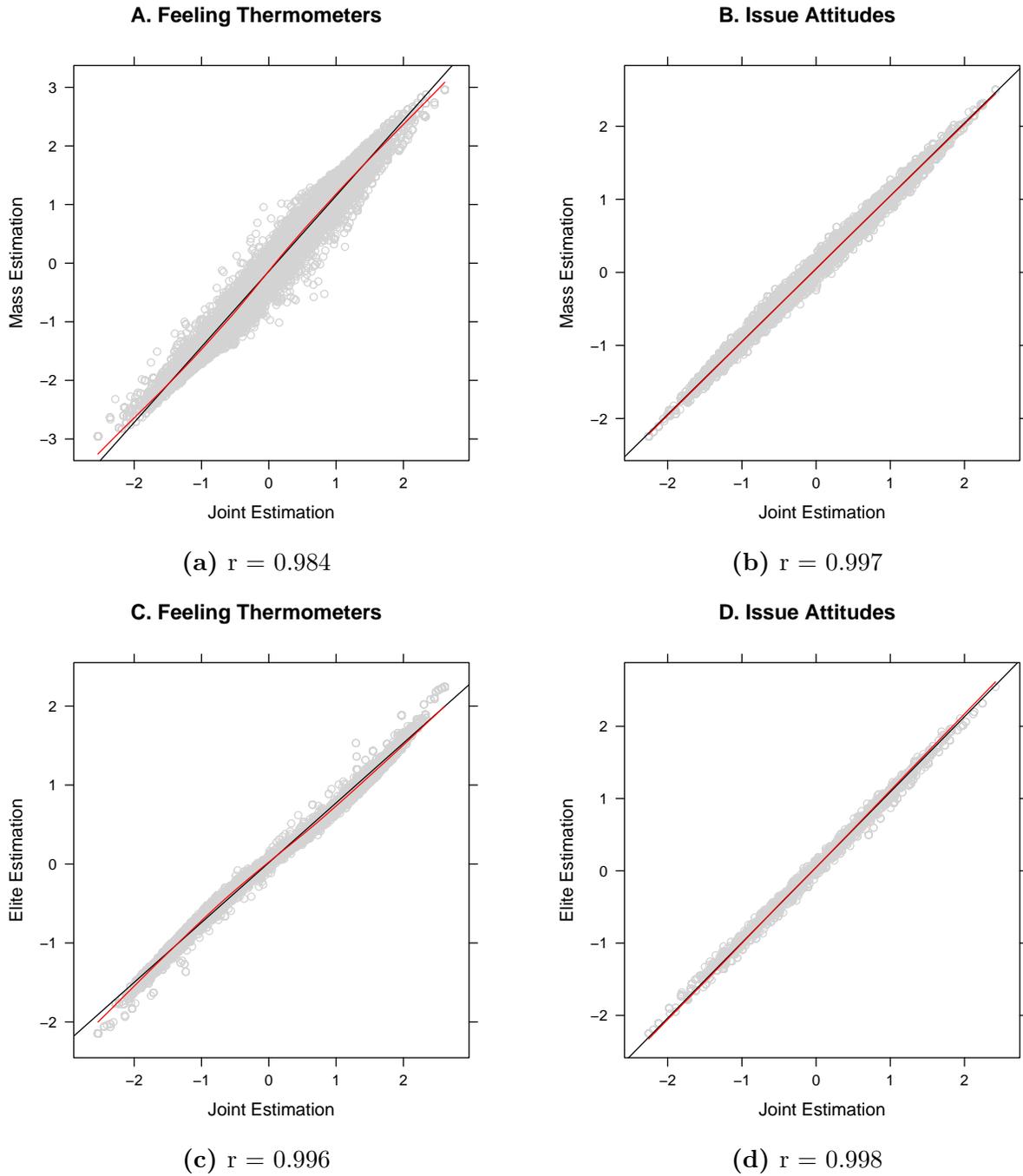
(b) Issue Attitudes

## 7 Joint Scaling Model Robustness Checks

In order to gauge substantive differences in the structure of emotional reactions toward political stimuli and issue attitudes between the mass and elite samples, we follow the advice of Jessee (2016) and estimate the same IRT models discussed in the main text on just the elites and mass data. From there we look for differences in the ideal points estimated by these three sets of models, as well as marked differences in model discrimination and difficulty parameters.

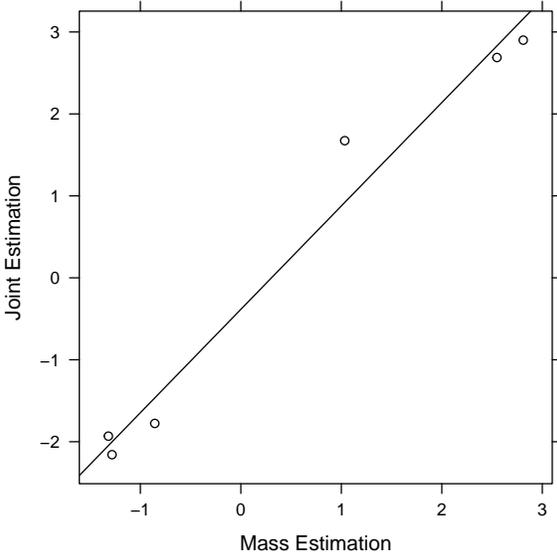
The figure below depicts the relationship between the mass and elite respondent ideal points from the jointly estimated model and the ideal points from the models using only the mass and elite data, by type of survey item. Both an OLS regression line (black) and a loess smoother (red) are overlaid to facilitate interpretation of the relationship between ideal point estimates. Although the linear relationship between ideal points garnered from the two models is not perfect for feeling thermometers or issue attitudes, correlations of 0.984 and 0.997, respectively, suggest that there are no major differences in ideal points from the two models when it comes to the masses (Panels A and B). The story is the same for elites. Indeed, the correlation between the elite ideal points from the joint and elite only estimations on feeling thermometers is 0.996 (Panel C), and 0.998 for issue attitudes (Panel D). Thus, we have one strong piece of evidence that any differences in the structure of mass and elite affective reactions to political stimuli and issue attitudes are not substantively biasing results with respect to the ideal points associated with members of either group.

**Figure A9:** Comparison of ideal points from joint, elite only, and mass only model estimations.

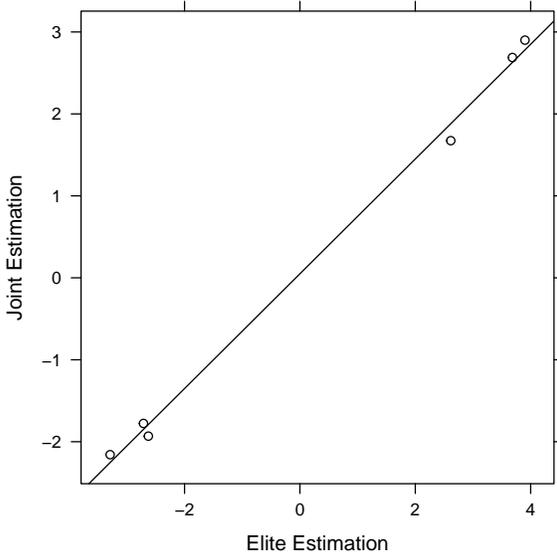


Next, we consider differences in the discrimination parameters from estimated from joint, elite only, and mass only models of feeling thermometer scores and issue attitudes. Although there are some nonlinearities apparent, the linear relationship between all pairs of parameters are very strong. The smallest correlation (0.929) is between the discrimination parameters for the joint and mass only estimations of issue attitudes. This is encouraging: a high linear correspondence between model parameters across estimations suggests that the joint scaling model is able to relatively accurately scale elites and masses without distortion of the information contained in any particular sample.

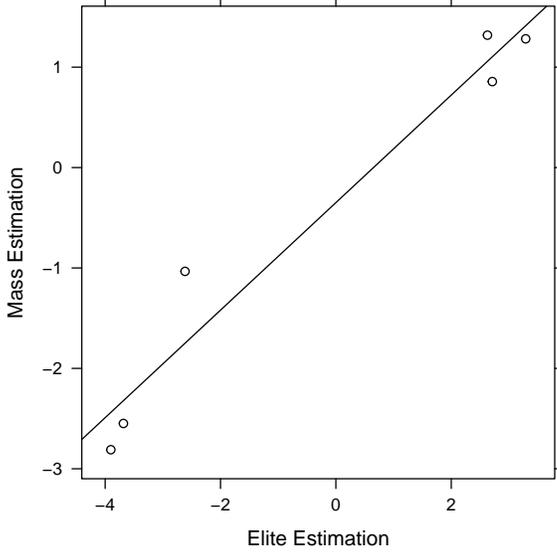
**Figure A4:** Comparison of discrimination parameters from joint, elite only, and mass only model estimations on **feeling thermometers**.



(a)  $r = 0.987$

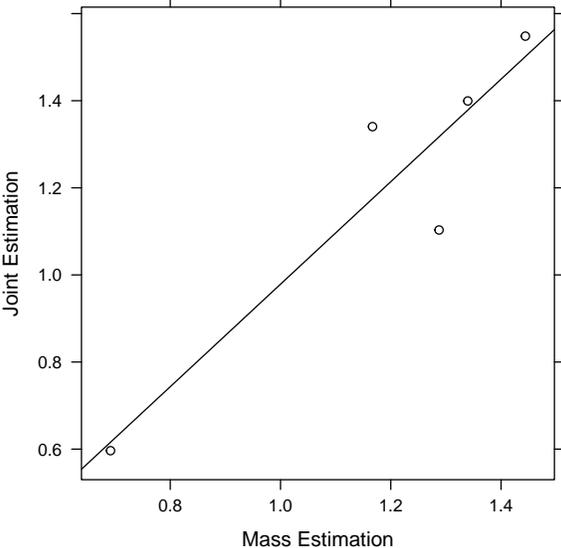


(b)  $r = 0.998$

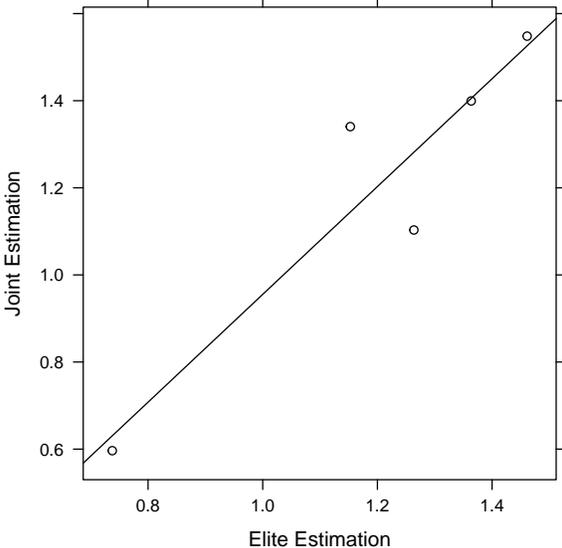


(c)  $r = 0.976$

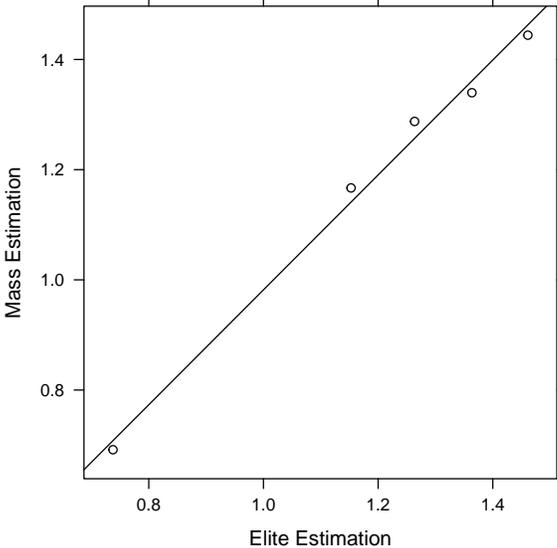
**Figure A4:** Comparison of discrimination parameters from joint, elite only, and mass only model estimations on **issue attitudes**.



(a)  $r = 0.929$



(b)  $r = 0.933$

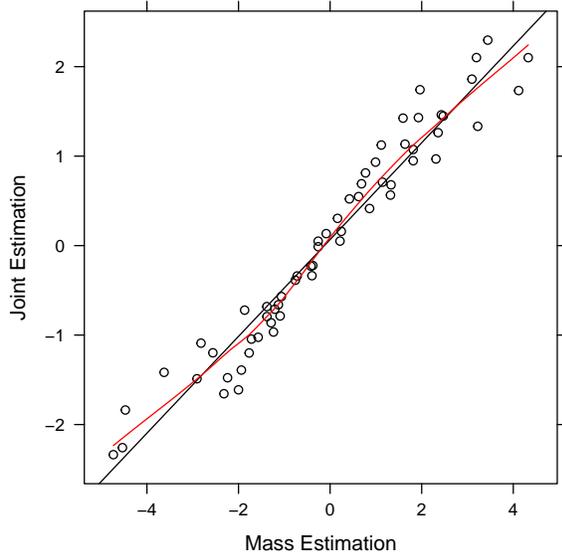


(c)  $r = 0.996$

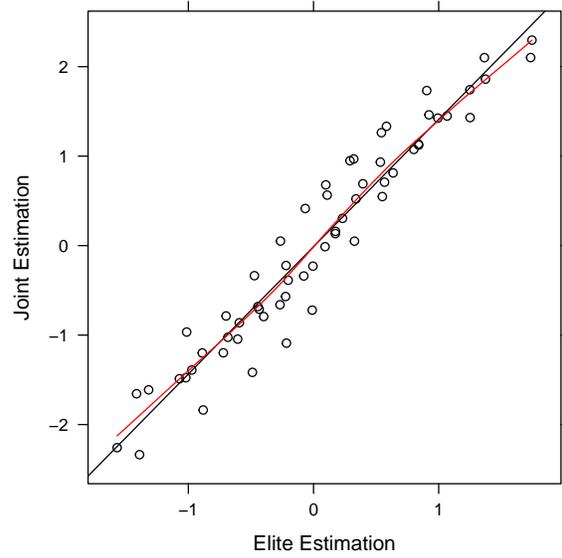
Finally, we consider differences in the difficulty/cutpoint parameters estimated from the joint, elite only, and mass only models. Once again, although there are some nonlinearities apparent, the linear relationship between all pairs of parameters are very strong. The smallest correlation (0.894) is between the difficulty parameters for the elite only and mass only estimations on feeling thermometers. Again, though, this is a relatively uninteresting comparison since we are most concerned with whether or not there are significant deviations between the single sample and joint sample models. Furthermore, any nonlinearities should be interpreted with caution since we, again, have relatively few observations.

Altogether, we have fairly robust evidence that the joint scaling procedure that we employ is appropriate. That is to say, it does not appear that separate estimations of mass and elite feeling thermometers or issues attitudes would reveal substantively different information or patterns. Model parameters from the joint estimation, and the estimations on both the elite and mass sample separately, are very highly correlated in every case, across item types.

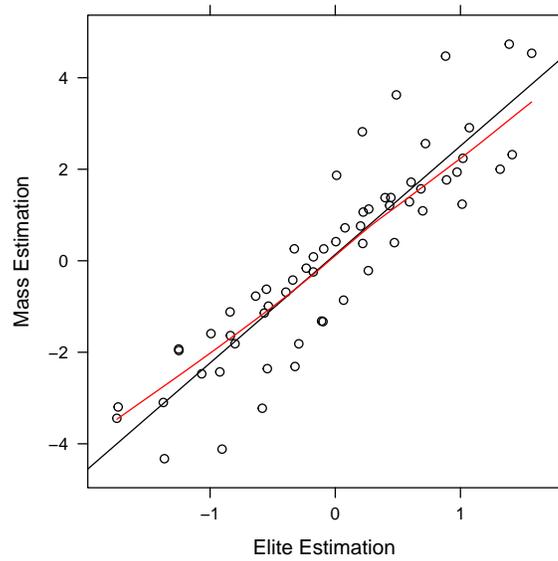
**Figure A4:** Comparison of difficulty parameters from joint, elite only, and mass only model estimations on **feeling thermometers**.



(a)  $r = 0.972$

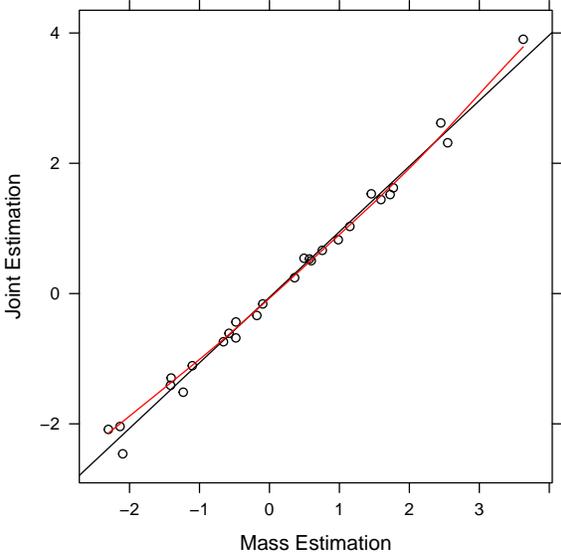


(b)  $r = 0.964$

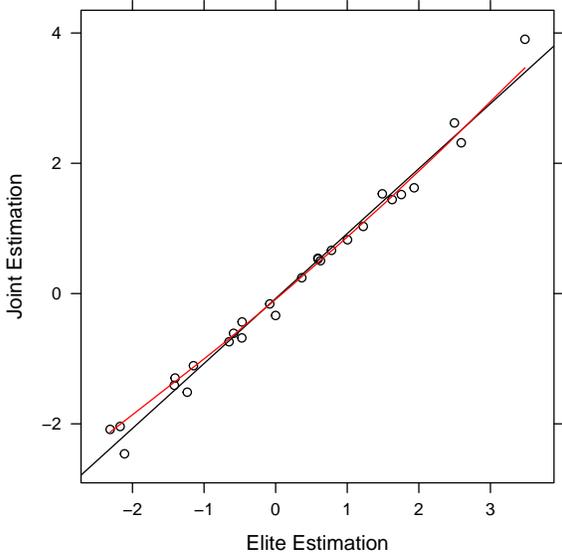


(c)  $r = 0.894$

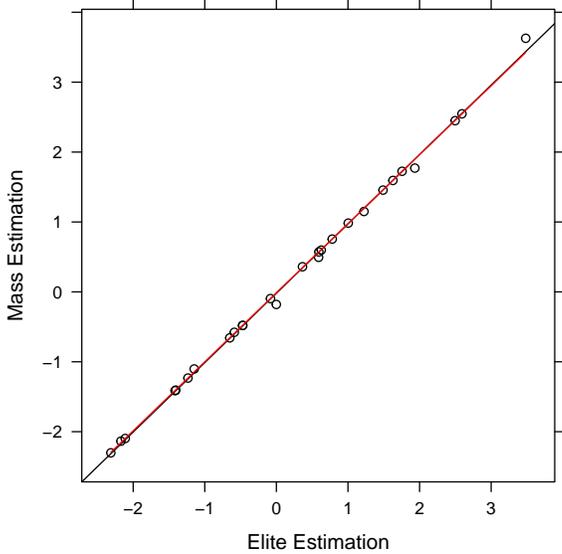
**Figure A4:** Comparison of difficulty parameters from joint, elite only, and mass only model estimations on **issue attitudes**.



(a)  $r = 0.995$



(b)  $r = 0.993$



(c)  $r = 0.999$

## References

- Jessee, Stephen A. 2016. "(How) Can We Estimate the Ideology of Citizens and Political Elites on the Same Scale?" *American Journal of Political Science* 16(4):1108–1124.