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**Ideology in Mass Publics**  
**Effects of Ideological Identification on Political Behavior**

A dissertation submitted in partial satisfaction of the  
requirements for the degree  
Doctor of Philosophy

in

Political Science

by

Lucas de Abreu Maia

Committee in charge:

Professor James Fowler, Co-Chair  
Professor Seth Hill, Co-Chair  
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Professor James Druckman  
Professor Zoltan Hajnal

2021

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University of California San Diego

2021

## DEDICATION

To my father, whose vision guided me toward honesty and kindness.

To my sister, whose vision guided me around so many obstacles.

To my brother, whose vision so often guided mine.

To my mother, in memoriam, whose vision guided who I am.

To my dog, whose vision safely guides me.

And to my husband, whose vision is my intellectual, spiritual, practical, and  
emotional guide in the world.

## EPIGRAPH

*“It is a truth very certain that, when it is not in our power to determine the most true opinions,  
we ought to follow the most probable.”*

—René Descartes

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ABSTRACT OF THE DISSERTATION

**Ideology in Mass Publics**  
**Effects of Ideological Identification on Political Behavior**

by

Lucas de Abreu Maia

Doctor of Philosophy in Political Science

University of California San Diego, 2021

Professor James Fowler, Co-Chair

Professor Seth Hill, Co-Chair

Public opinion research has traditionally viewed ideological self-identification as largely subsidiary to party identification, with little predictive power of its own. I use experiments, social media posts, data from 10 different survey panels, and the ANES cross-sectional time series to challenge this argument. I firstly establish that the vast majority of the American public identifies with an ideological label. I then present evidence that, within panel respondents, ideological identification is extremely stable over time. I also show that, according to traditional measures of affective polarization, ideological self-placement is currently as polarized as partisanship.

When it comes to attitudes, I integrate survey responses on 33 different issues to show that ideological labels “liberal,” “moderate,” and “conservative” are predictive of different positions along the ideological spectrum. Finally, I present evidence that ideological identification is significantly associated with presidential, Congressional, and gubernatorial vote choice. Taken together, these results indicate that the traditional place of ideology in the American public needs to be reassessed. Contrary to most current theories, ideological labels seem to be closely held social identities, with strong affective, attitudinal, and behavioral effects.

# Chapter 1

## Introduction

No concept is as important to understanding voting behavior as ideology. Democratic theory posited that voters would assess their own ideological preferences, compare it to those of parties and candidates and then cast their ballots trying to minimize this difference (Dahl 1956; Downs 1957). Yet, ideology has long been viewed by a large number of researchers of American politics as being, at best, a minor factor in political attitudes and behavior (Achen and Bartels 2016; Berelson, Lazarsfeld, and MacPhee 1954; Campbell et al. 1960; Green, Palmquist, and Schickler 2002; Miller and Shanks 1996). At worst, the American public is largely ignorant of ideology; it does not hold logically consistent positions on political issues, be it across policies or over time (Barber and Pope 2019; Converse 1964; Freeder, Lenz, and Turney 2019; Kalmoe 2020; Kinder and Kalmoe 2017). Ideology would be, hence, a poor predictor of political attitudes, public engagement or vote choice—a supporting character to the leading role played by partisanship.

Recent research, however, has cast doubt on the traditional view of operational ideology—i.e., voter’s substantive political positions. Scholars are increasingly reaffirming the role that attitudes have on affect (Lelkes 2019; Orr and Huber 2020; Rogowski and Sutherland 2016)

and behavior (Ansolabehere, Rodden, and Snyder 2008; Fowler 2020; Fowler et al. 2020; Jost 2006). Nonetheless, the relevance of ideological identification has not gone through a similar reassessment.

In 2016, 77% of the American electorate identified with an ideological label—“liberal”, “moderate” or “conservative”—according to the American National Election Studies, even when given the chance to simply answer they had not “thought much about this”. Fifty-six percent identified specifically as either “liberal” or “conservative”. These proportions have remained relatively stable since 1972, when ideological self-identification was first asked of ANES respondents. Despite ideological labels clearly meaning something to a majority of the voting population, we know remarkably little about what this something is and how important those labels are.

I will, in this dissertation, reexamine the role of ideological identification in the United States, taking into account both its identity and attitudinal dimensions. Are labels “liberal,” “moderate,” and “conservative” meaningful to voters? That is, does a significant number of Americans identify with these terms? And are these attachments durable? More importantly: are ideological labels associated with substantive attitudes and political behavior? The evidence provided here indicates that the answer to all those questions is “yes.” I will present evidence that (1) ideological labels are ubiquitous in America, (2) that they are stable throughout one’s life, (3) that they are affectively loaded, (4) that they are associated with issue attitudes, and (5) that they affect democracy’s ultimate outcome: vote choice.

My findings challenge the view that the American public is ignorant and disinterested in politics. Rather, voters are comfortable enough with ideological language to use it—and, more importantly, to be driven by it.

This dissertation is organized as follows: the next chapter reviews the scholarship on ideology in America. I briefly outline the research indicating that ideological identification is all but irrelevant in behavior, evaluate the challenges posed by those works associating attitudes



with political outcomes, and point at methodological and conceptual omissions that explain these disparate results. In particular, I show that by (1) ignoring the role of measurement error and (2) overemphasizing the dissociation between substantive attitudes and ideological self-placement, a majority of political scientists wrongly concluded that identifying as “liberal,” “moderate,” or “conservative” does not play a role in political behavior.

I then thoroughly examine, empirically, the role of ideology in America. The first step in establishing the relevance of ideological identification is to show that it is prevalent—i.e., that enough Americans identify with an ideological label for it to matter. Thus, the empirical part of this dissertation will begin, in chapter 3, by showing that ideological identification is in fact common in the United States. Over the last five decades, around 94% of Americans have identified as “liberal,” “moderate,” or “conservative.” Even if we ignore “moderate” as an identity—an unwarranted conclusion, as I will show in chapter 6—75% of the American public still view themselves as belonging to an ideological group.

Still, ideological identification might not matter if those identities are unstable. If a voter views herself as liberal today, only to identify as conservative within a week, arguing for the political impact of ideological labels would be a tall order. To assuage this important concern, I will, in chapter 4, analyze data from ten panel surveys to show that these identities are exceedingly stable over time. Applying the strategy advanced by Green, Palmquist, and Schickler (2002) to examine the stability of partisanship, I will provide the first estimates of the durability of ideological labels. Results indicate that it is, in fact, comparable to that of party identification.

Next, in chapter 5, I look at affective polarization—a concept created by Iyengar, Sood, and Lelkes (2012) to explain the growing animosity that Democrats and Republicans feel toward each other. I present evidence that ideological affective polarization is now a potent force, comparable to partisan animosity.

In chapter 6, I turn to the analysis of ideological identification and issue attitudes. The

standard view in the study of political behavior is that these two variables are largely dissociated from each other. To examine this claim accounting for measurement error, I gathered every substantive issue question asked on the American National Election Study since at least 1990. By averaging the answers to these 33 questions, I show that, in fact, the labels “liberal,” “conservative,” and “moderate” predict very different positions on the ideological spectrum. These results are robust to several different estimation strategies.

I follow these analyses by examining, in chapter 7, perhaps the most central variable in the study of democratic politics: vote choice. I test the association between ideological identification and vote for president, Congress, and governor using a variety of estimators to try to address multicollinearity. Even on the most stringent tests, the relationship remains significant for presidential, House, and Senate vote. As one moves a point to the right on the ideological identification scale, one becomes 4%—in the case of major party presidential vote choice—and 3%—in the case of Congressional elections—more likely to vote for the Republican candidate.

The results all point at the same direction: ideological identification has aspects of a social identity (e.g., its stability and affective dimension), but is, simultaneously, associated with substantive attitudes. It is central to American politics, with affective, attitudinal, and behavioral consequences.

## Chapter 2

# Views of Ideology

No other concept has been as ubiquitous—and controversial—in the study of political behavior as ideology. Influential theorists saw in it the essential ingredient for democracy to work (Dahl 1956; Downs 1957). In Downs’s (1957) spatial model of voting, a voter would assess their own position in the ideological spectrum and compare it to the location of parties and candidates. Vote choice would thus be the result of a function that minimizes these distances.

As soon as political scientists began studying public opinion in a systematic fashion, however, questions about the empirical validity of this theoretical approach emerged. Converse (1964) famously showed that the vast majority of the electorate apparently did not hold consistent attitudes on political matters, either across issue areas or over time—an argument recently rearticulated by Kinder and Kalmoe (2017) and Freeder, Lenz, and Turney (2019). According to this tradition, ideology is all but irrelevant, trumped by a much more powerful attachment: party identification (Achen and Bartels 2016; Barber and Pope 2019; Campbell et al. 1960; Converse 1964; Freeder, Lenz, and Turney 2019; Kinder and Kalmoe 2017; Miller and Shanks 1996).

Other scholars responded to this pessimistic view of the American public by arguing that the problem is not with voters’ lack of ideology itself, but with the tool we use to measure it:

the survey. If we aggregate responses across issues and over time, then we are able to overcome measurement error and attitudes become more stable and predictive (Key 1966; Achen 1975; Ansolabehere, Rodden, and Snyder 2008). Likewise, recent scholarship claims that the growing negative affect we observe today between the two sides of the political debate is driven by policy disagreement (Abramowitz 2014; Orr and Huber 2020; Webster and Abramowitz 2017).

Some have opposed a uni-dimensional model of ideology—from liberal, on the left, to conservative, on the right, often regarding issues about governmental expenditure—arguing, instead, for a two-dimension representation that differentiates between social and economic views (Conover and Feldman 1981; Feldman and Johnston 2014; Jost, Federico, and Napier 2009; Klar 2014; Treier and Hillygus 2009; Weisberg 1980).. Though empirical analysis often supports the unidimensional model. Fowler et al. (2020), for example found that approximately two thirds of the American public fall into what they call the Downsian model of ideology, going from left to right. (See also Azevedo et al. (2019) and Poole and Rosenthal (2011).) Scholars have also differentiated issue-based ideology from ideology as a social identity (Claassen, Tucker, and Smith 2015; Conover and Feldman 1981; Devine 2015; Ellis and Stimson 2012; Kinder and Kalmoe 2017; Malka and Lelkes 2010; Mason 2018a; Noel 2014). According to one view of symbolic ideology, voters identify as liberal or conservative as a response to the groups affiliated with those labels, such as labor unions, religious denominations or racial minorities (Conover and Feldman 1981; Mason 2018b). Alternatively, ideological labels reflect the meaning that those words have acquired in political discourse (Claassen, Tucker, and Smith 2015; Ellis and Stimson 2012)<sup>1</sup>.

Naturally, the causes and true nature of ideological self-placement are questions of vital importance. My goal in this dissertation is, however, altogether more modest: to point to the fact that those labels carry real political consequences.

---

1. Ellis and Stimson (2012) explain the asymmetry in the number of Americans who identify as conservative, rather than liberal, by arguing that conservatism has a positive connotation in the United States, denoting valuing family, society, and religion.

Yet, influential researchers have insisted that ideological labels do not matter. In a recent book, (Kinder and Kalmoe 2017) analyse decades of public opinion data to claim that (Converse 1964) has been right all along: the American public is supposedly naive of ideology. Not only that, but even if we consider ideological labels to be social identities, they are dwarfed in their importance by partisanship.

The remainder of this dissertation will be devoted to challenging that view. I will present vast amounts of evidence that (1) ideological labels are ubiquitous in America, (2) that they are stable throughout one's life, (3) that they are affectively loaded, (4) that they are associated with issue attitudes, and (5) that they affect democracy's ultimate outcome: vote choice.

## Chapter 3

# Prevalence of Ideological Identification in the United States

The first step on the way to showing that ideological identification is a relevant force in American politics is to establish that a significant portion of voters associate themselves with some ideological label. Indeed some scholars have claimed (e.g., Kinder and Kalmoe 2017, ch. 3) that ideology cannot matter in the United States because, supposedly, relatively few Americans view themselves as “liberal,” “moderate,” or “conservative.” According to this argument, ideological language is shunned by a significant percentage of voters, who decline to answer when first posed with the seven-point ideological scale. The prevalence of ideological identification would, thus, be dwarfed by the ubiquity of other political identities, notably partisanship.

What this claim ignores, however, is that the questions measuring party identification and ideological self-placement are not comparable in the survey most frequently used to study political behavior in the United States, the American National Election Study. Firstly, the ANES did not include a question asking respondents to identify themselves with an ideological label until 1972, after it had been polling American voters for 24 years. More importantly, while

partisanship is gauged from a series of questions, the most used measurement of ideological identification comes from just one.

Traditionally, the question most frequently used to measure ideological identification asks respondents to place themselves on a seven-point scale, ranging from “extremely liberal,” on the left, to “extremely conservative,” on the right. It also includes an option for those who say that they “haven’t thought much about it.” The partisanship instrument, on the other hand, firstly asks respondents what party they identify with. Those that choose one of the two major parties then are asked if they view themselves as being a strong or not so strong Democrat/Republican. Those who choose “independent” or some other option in the first round of the question then are asked if they feel closer to either party. All these answers are then summarized into a seven-point scale, ranging from “strong Democrat” to “strong Republican.” This difference in survey instruments may end up measuring theoretical constructs distinctively.

Nonetheless, it remains important to examine how prevalent ideological identities are in the American public. I wrote that ideological identification is *mostly* measured via a single question because, since 1984, the ANES has included a branching question in the original seven-point scale. Those who answer “moderate” or who decline to answer altogether are then encouraged to say if they are closer to liberals or conservatives. Usually, the answers to these two questions are summarized into a three-point scale. This new scale is not as frequently applied in empirical studies as the seven-point one, but it more closely mirrors our measurement of partisanship.

Figure 3.1 displays the percentage of voters who give valid answers to either the original seven-point scale, on the left, or to the branching question. It shows that, in actuality, the vast majority of Americans do identify with an ideological label. Even sticking with the seven-point scale, around 70% of Americans identify as “liberal,” “moderate,” or “conservative.” If one examines the branching measurement, though, that proportion is closer to 94%.

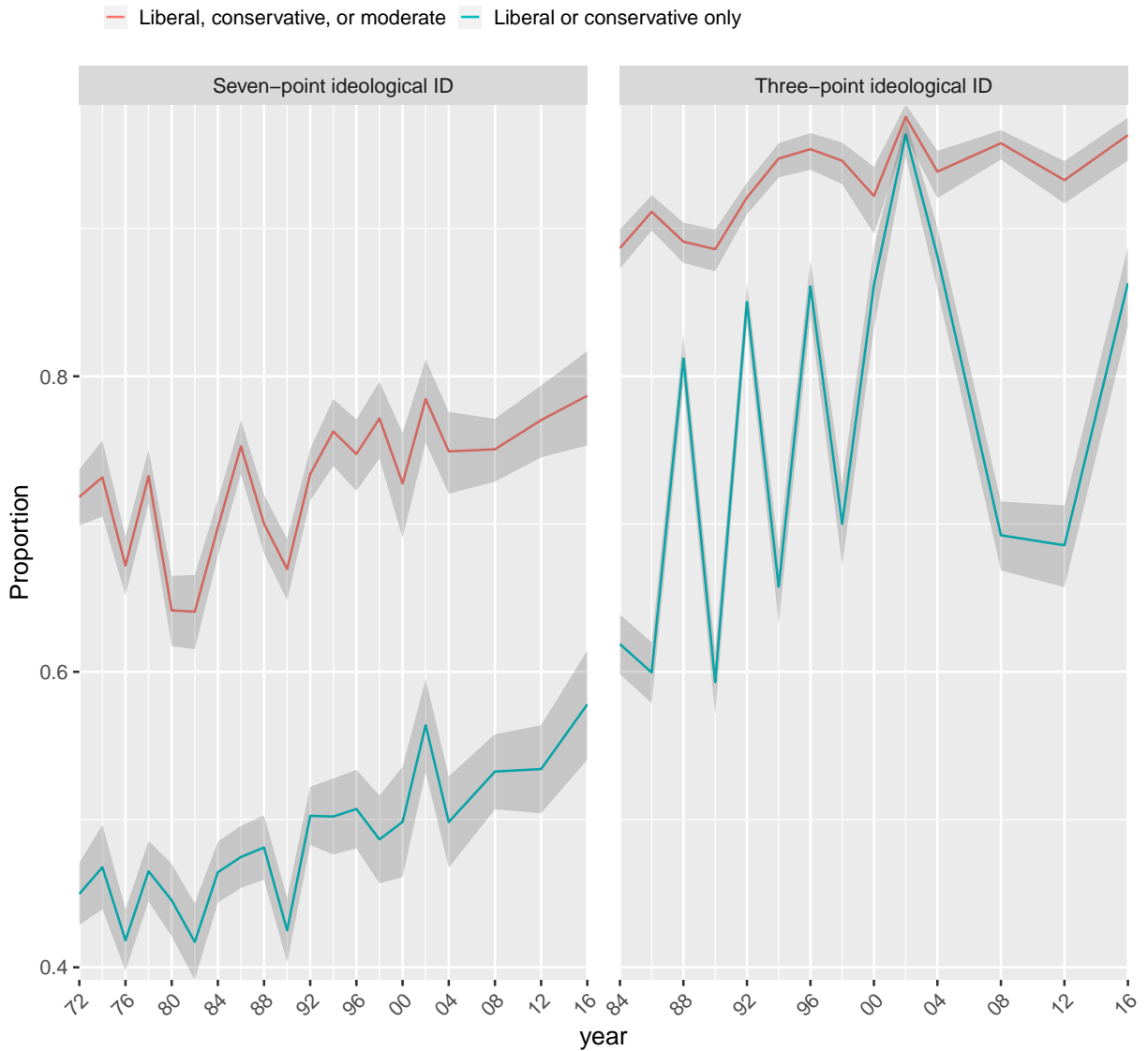
Even if one accepts the argument of some scholars (e.g., Kinder and Kalmoe 2017) that “moderate” is a desirable label, but not a true identity—an argument that has been thoroughly

challenged by Fowler et al. (2020) and that I will also contend with later in this dissertation—and exclude those from our analysis, there is still a sizable chunk of Americans who identify as “liberal” or “conservative.” Over time, their proportion has been around 50% of the population in the seven-point scale—and is approaching 60% in the last decade. However, if we look at the branching ideological identification measurement, around 76% of the electorate view themselves as “liberal” or “conservative.”<sup>1</sup> The view that dismisses the role of ideological identification in American based on its perceived rarity is, hence, ungrounded on evidence.

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1. It is interesting that there are oscillations in the broader measurement in non-presidential election years. This suggests that ideological identification is less salient during midterm elections. It also suggests that the branching question may be somewhat less reliable. Further research should examine this possibility. While it might, on the face of it, contradict my claim, developed fully in the next chapter, that ideological labels are highly stable, it does not, actually. Firstly, I gauge the stability of ideological identification with the seven-point scale, not with the branching question. Much more importantly, though, the proportions in Figure 3.1 are population averages. Thus, they do not take into account measurement error. My estimates for the stability of ideological identification, on the other hand, holds the respondent constant, thus evaluating stability for each voter separately and taking into account measurement error.





Source: ANES cumulative data file. Only face-to-face interviews included. Survey-consistent robust standard errors used to compute confidence intervals.

This panel presents, on the left plot, the percentage of ANES respondents who gave valid answers to the traditional seven-point ideological identification scale. In red are those who choose to identify as “liberal,” “moderate,” or “conservative” over time. This proportion has remained consistently high throughout the years, hovering around 70% but surpassing 98% on occasion. The blue line indicates the proportion of Americans explicitly identifying as “liberal” or “conservative.” It has constantly been around 50% of US voters. The right plot displays a broader measure of ideological identification, gauged from a branching question. Although the trends are similar to the ones shown on the left plot, the percentages are higher, suggesting that the seven-point scale may underestimate the percentage of Americans who identify with an ideological label. See appendices for tabulated data.

**Figure 3.1:** Percentage of Americans who identify with an ideological label

## Chapter 4

# The Stability of Ideological Identification

So far, I have shown that ideological identification is quite common in the United States. However, it may matter little politically if individuals constantly shift how they view themselves ideologically. Those who argue for the supposed irrelevance of ideology in America often point to its claimed volatility (e.g., Campbell et al. 1960; Converse 1964; Kinder and Kalmoe 2017; Freeder, Lenz, and Turney 2019). Though other researchers have cast doubt on these claims—e.g., Achen (1975), Ansolabehere, Rodden, and Snyder (2008), Jacoby (1995), and Kustov, Laaker, and Reller (Forthcoming)—I will focus, in this chapter, on ideological identification, rather than attitudes per se. My goal is to show that, in fact, voters' ideological identities are remarkably stable over time.

Although scholars are increasingly calling attention to the stability—or lack thereof—of specific attitudes (e.g., Freeder, Lenz, and Turney 2019; Kalmoe 2020; Kustov, Laaker, and Reller Forthcoming; Kaufman 2020), the stability of ideological labels has never been gauged, though there are some interesting hints: Amira (2019), for example, shows that, unlike with party identification (Klar and Krupnikov 2016), voters do not change their ideological self-placement in response to social desirability primes. Nonetheless, an examination of the stability of ideo-

logical labels has not been conducted. While Kinder and Kalmoe (2017) address the supposed instability of ideological identities, they do not use panel data—the gold standard for these types of analyses (e.g., Kustov, Laaker, and Reller Forthcoming; Green, Palmquist, and Schickler 2002; Prior 2010; Schickler and Green 1997; Tucker, Montgomery, and Smith 2019). That is, they do not consider stability within respondents, only population averages. In doing so, they do not address measurement error, a large problem in survey analysis (Achen 1975; Ansolabehere, Rodden, and Snyder 2008; Green and Palmquist 1990).

Estimating the stability of social identities is challenging. If we observe variation, is it because respondents actually changed their identity or due to noise? To get around this obstacle, I will use the approach advanced by Green, Schickler and Palmquist in a series of papers gauging the stability of partisanship (Green and Palmquist 1990; Green and Schickler 1993; Green and Palmquist 1994; Green, Palmquist, and Schickler 1998, 2002; Schickler and Green 1997). In a nutshell, they use survey panels—which repeatedly interview the same respondents—to examine how a given variable changes over time. By analyzing the effect of a previous value of that variable on the current observation, and by including respondent and wave fixed effects, they are thus able to show that partisanship remains basically stable through many observations.

I will show in this chapter that ideological identification is about as stable as partisanship. I seek not to challenge the accepted view that party identification is a firmly held social attachment. Rather, I intend to complement those findings by adding ideological self-placement as yet another central political identity.

## **4.1 Data and Methods**

### **Data**

To test the stability of ideological identification, I examined data from ten panel surveys: the 1972-6 American National Election Studies panel, which interviewed voters in three waves

(in the falls of 1972, 1974, and 1976); the 1980 ANES major panel, which conducted four waves throughout that year; the 1990-2 ANES panel, with three survey waves in the falls of 1990, 1991, and 1992; the 1992-7 ANES panel, containing six waves (also in the falls of every year between 1992 and 1997); the 2006-10 General Social survey, which conducted interviews in three waves in 2006, 2008, and 2010; the 2008-12 GSS, with waves in 2008, 2010, and 2012; the 2008 National Annenberg Election Survey, which carried out five interview waves in 2008; the 2010-14 GSS, with waves in 2010, 2012, and 2014; the 2010-4 Cooperative Congressional Election Study, which conducted three waves (in the falls of 2010, 2012 and 2014); and The American Panel Survey, which conducted over 70 waves from 2011 to 2017. Taken together, they include 57,615 individual respondents and 295,405 interviews spanning 45 years.<sup>1</sup>

Panels offer a unique opportunity to test the stability of social scientific constructs, as they take repeated measurements of the same variables, holding respondents constant. We thus can better compare the evolution of a quantity we are interested in over time.

For the sake of clarity, I will present the results by comparing the estimates for the stability of ideological identification with those for partisanship. Precisely because the stability of party identification has been well-established (Green, Palmquist, and Schickler 2002; Tucker, Montgomery, and Smith 2019), we will have a basis upon which to ground our analysis. I thus restricted the results presented in the main body of the dissertation to those respondents who gave valid answers to both the party identification and ideological self-placement questions in all waves of the panels.<sup>2</sup>

The quantities of interest within those panels are how many and how much respondents have changed their ideological identification over multiple measurements. There are several conceivable strategies to measure these: one could look at the percentage of individuals who kept the same response to the ideological identification question through all waves of the panel, one

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1. Table B.1, in appendix B.1, presents the number of waves and sample sizes after operationalizing the data for all panels used.

2. Results for the full samples can be viewed in Figure B.2, in appendix B.3. They look very similar to those presented here.

could test the correlation between each measurement of the variable, one could look simply at the association between the first and last waves, one could look at the variance of this measurement over time, etc. None of these methods, however, addresses concerns about measurement error—the fact that much of the oscillations one may observe may be caused by random noise, rather than actual changes on the underlying construct. I detail the strategy I use to get around measurement error in the next section.

First, however, I present the raw data, free of any modeling assumptions. Table 4.1 displays the proportion of respondents who have reported different values in the ideological self-placement scale in the first and last waves of each of the ten panels examined. For comparison, the estimates for partisanship are also shown.<sup>3</sup>

At a first glance, these may seem like large numbers. Anywhere between 40% and 56% of respondents changed how they identified ideologically in the first and last waves of these panels. But one must keep in mind that this is an extremely high bar to pass. We are asking respondents—most of whom are not that politically engaged—to give exactly the same answer to a survey question twice, sometimes with years of difference between the two waves. Moreover, those these proportions include respondents who may have shifted their identification very little (say, from “extremely conservative” to “conservative”). Seen in that light, the proportion of voters who have kept the exact same ideological identification—between 60% and 44%— seem rather more impressive.

### **4.1.1 Empirical Strategy**

I will use the approach advanced by Green, Palmquist, and Schickler (2002): a first differences model within an autoregressive framework to test the stability of a variable.<sup>4</sup> In this

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3. A similar examination of the data allowing changes within ideological labels withholds comparable results—though, naturally, one observes more stability under this less stringent condition. Therefore, the proportions shown in Table 4.1 are conservative estimates.

4. Although more recent work concerned with stability of political variables have tended to use measurement models (e.g., Kustov, Laaker, and Reller Forthcoming; Prior 2010; Tucker, Montgomery, and Smith 2019, though

**Table 4.1:** Proportion of panel respondents who changed their ideological and party ID in the first and last waves

	Ideological ID	Party ID
ANES 1972-6	0.56 (0.53;0.6)	0.5 (0.46;0.53)
ANES 1980 major panel	0.45 (0.4;0.5)	0.4 (0.35;0.45)
ANES 1990-2	0.53 (0.49;0.58)	0.42 (0.37;0.47)
ANES 1992-7	0.45 (0.34;0.56)	0.57 (0.46;0.68)
GSS 2006-10	0.56 (0.52;0.59)	0.49 (0.45;0.52)
NAES 2008 panel	0.4 (0.38;0.41)	0.35 (0.33;0.36)
GSS 2008-12	0.55 (0.51;0.58)	0.44 (0.4;0.47)
GSS 2010-4	0.53 (0.5;0.57)	0.46 (0.42;0.49)
CCES 2010-4	0.41 (0.39;0.44)	0.28 (0.26;0.3)
TAPS	0.48 (0.42;0.54)	0.39 (0.34;0.45)

Survey-consistent robust 95% confidence intervals shown in parentheses.

model, one takes a variable in its most recent observation and subtract its immediately previous measurement. We then do the same for the second and third most recent measurements. By regressing the first difference on the second difference, we can thus estimate the stability of the variable. The closer to 0, the more stable it is. This intuition is formalized in Equation 4.1:

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see Freeder, Lenz, and Turney 2019 for an entirely different approach) over the first differences models I present here, there are two reasons for my adopting the methodology I do: most importantly, I use the same estimation strategy as Green, Palmquist, and Schickler (2002) and am thus able to approximate for ideology their seminal findings about partisanship. Additionally, measurement models are less reliable for panels with only three waves, meaning that several of the data sources that I use here would be unavailable if I were to adopt this approach. Nonetheless, I ran measurement models as a robustness check. The results, in Figure B.3 (appendix B.3), are consistent with the dynamic panel approach I present in the main body of the dissertation.

$$\Delta y_{i,t} = \alpha_{i,t} + \beta_{i,t} \Delta x_{i,t-1} + \varepsilon_{i,t} \quad (4.1)$$

Where  $\Delta y_{i,t}$  Is the difference between the observation of variable  $y$  for respondent  $i$  at time  $t$  minus the observation for the same variable  $y$  for the same respondent  $i$  at time  $t - 1$ . Or:

$$\Delta y_{i,t} = y_{i,t} - y_{i,t-1} \quad (4.2)$$

Likewise,  $\Delta x_{i,t-1}$  is the difference between the observation of variable  $x$  for respondent  $i$  at time  $t - 1$  and the same variable  $x$  for the same respondent  $i$  at time  $t - 2$ . Or:

$$\Delta x_{i,t-1} = x_{i,t-1} - x_{i,t-2} \quad (4.3)$$

Following customary notation,  $\alpha_{i,t}$  is the constant–respondent  $i$ 's long term average–and  $\beta_{i,t}$  is the auto regressor–the impact of previous observations of  $x$  on the current observation. It is the quantity we are truly interested in. If it is close to 0, then variable  $x$  is stable over time.

The first differences estimator has the quality of controlling for time -constant unobserved variables (Wooldridge 2010, pp. 279-91). However, because, in this case, we are interested in the different measurements of the same variable, we have one additional concern: endogeneity. Current values of  $x$  are influenced by previous observations of  $x$ . This problem has been minimized with the estimator proposed by Anderson and Hsiao (1981), improved by Arellano (1989), and adopted by (Green, Palmquist, and Schickler 2002). It uses previous observations of  $x$  ( $x_{i,t-2}$ ,  $x_{i,t-3}$  ...) as instruments. It is, thus, the approach I will adopt in the following section.<sup>5</sup>

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5. Arellano and Bond (1991) proposed an improvement to this estimator using the generalized method of moments. Because the linear estimator has already been validated by Green, Palmquist, and Schickler (2002) for survey data in political science, I will stick to it in the main body of this dissertation. Nonetheless, my results are robust to the Arellano-Bond estimator, as shown in Figure B.4, in appendix B.3.

## 4.2 Hypotheses

Having outlined the methodology I will use, I can thus derive the hypothesis I will test:

**H1** : If ideological identification is stable over time—that is, if individuals constantly associate themselves with the same ideological labels—, the autoregressor from the first differences model should be statistically indistinguishable from zero. In other words, if previous variation on ideological identification does not predict any current changes, then we can conclude that ideological labels are closely held social attachments. If, on the other hand, voters constantly shift their ideological identities, we should expect the difference between previous observations of the current variable to predict any changes that might occur in ideological identification. In other words, the autoregressor from the first differences model should be statistically significant.

## 4.3 Results

Figure 4.1 displays the results of estimating Equation 4.1. It presents the coefficients for the first differences model for ideology (in red) and party identification (in blue). It indicates that indeed the coefficients are statistically insignificant in most panels, except for some of the surveys conducted between 2006 and 2014, which show some level of instability in ideological identification.<sup>6</sup>

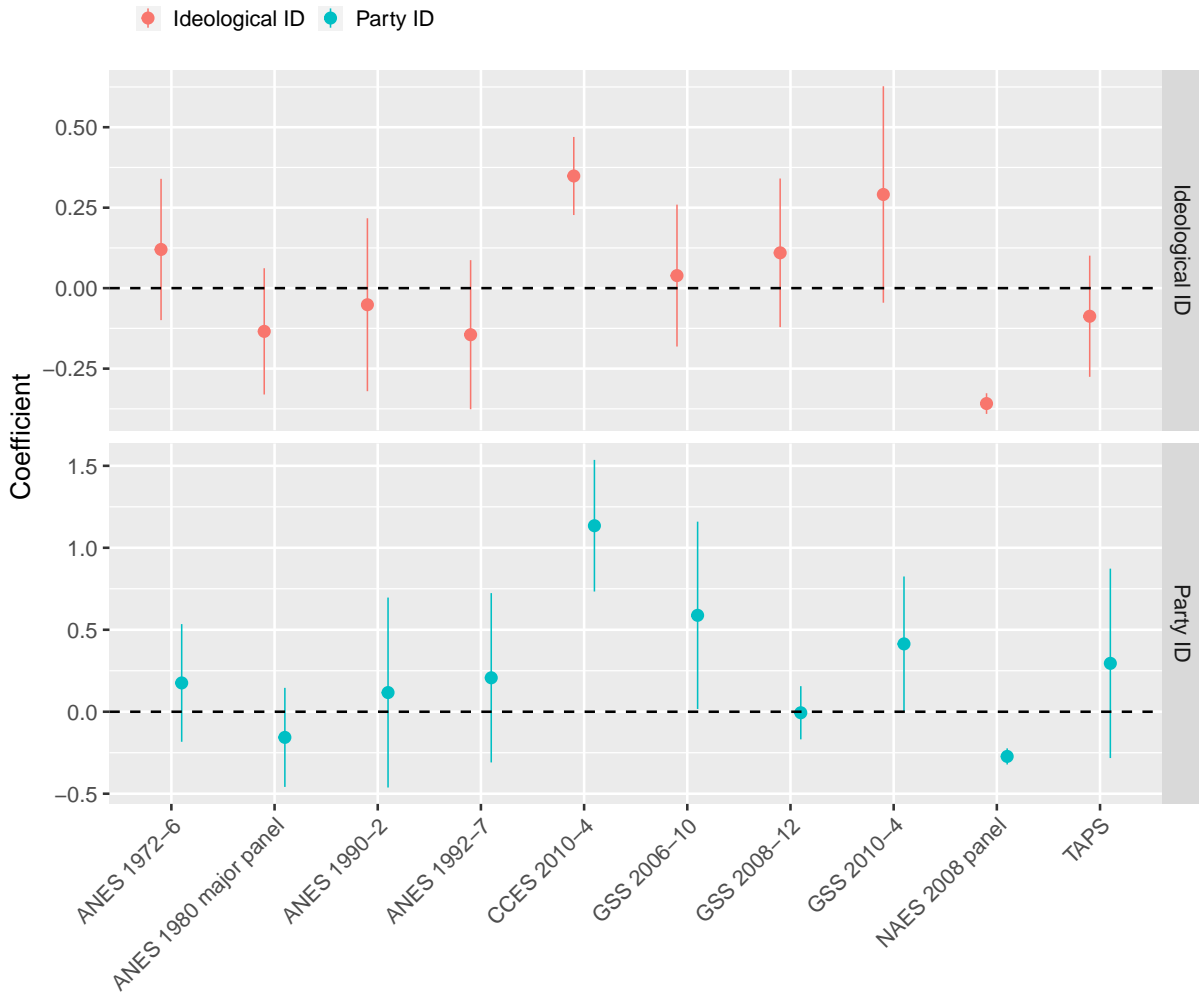
One should always be suspicious of ad-hoc explanations, but this instability should perhaps be expected. After all, during this period, America elected its first African American president and saw the emergence of the Tea Party Movement, which emphasized ideological purity.

Nonetheless, the aggregate of the evidence favors H1: ideological identification is re-

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6. Moreover, these results hold for various robustness checks presented in the appendices: controlling for presidential approval (Figure B.1 for the panels' full samples, including respondents who might not have answered one of the party identification or ideological self-placement questions (Figure B.2); a measurement model (Figure B.3); and semi-parametric estimators (Figure B.4)—all in appendix B.3.





Source: ANES 1972-6 panel, ANES 1980 major panel, ANES 1990-2 panel, ANES 1992-7 panel, GSS 2006-10 panel, GSS 2008-12 panel, NAES 2008 panel, GSS 2010-14 panel, CCES 2010-4 panel, and TAPS. Only respondents who gave valid answers to both the ideological self-placement and party identification questions in all waves were included. Survey-consistent robust standard errors used to compute confidence intervals.

This figure indicates that, except for some panels spanning the period from 2008-14, estimates for the variation of ideological identification over time (in red) are statistically undistinguishable from zero. In fact, they are comparable to those estimates for the variation in partisanship. These results suggest that ideological identification is highly stable throughout one's life. Full results are in the appendices.

**Figure 4.1:** Estimates for the stability of partisanship and ideological identification across ten survey panels

markably stable over time. Indeed, it seems just as stable as partisanship.

Having shown that ideological labels are both prevalent and durable in American society, the remainder of this dissertation will concentrate on its consequences.

## Chapter 5

# Passionately Political

While recent scholarship has shown that party identification and ideology have grown more intrinsically linked over the last four decades (Abramowitz and Saunders 2008; Fiorina and Abrams 2008; Hill and Tausanovitch 2015), we still do not know the relative strength of these two forms of political attachment. Evidence indicates that ideology has become a more polarized force in American politics (Mason 2018a), but how far are we in this process, especially vis-a-vis social identities traditionally thought as being even more powerful?

In this chapter, I argue that ideological self-identification is an affective, polarized, and relatively strong social attachment. I go beyond previous research by directly comparing the relative strength of ideological labels to five other group identities. This comparison is done through an accepted marker of group attachment: moral language (Aquino, Reed, et al. 2002; Ellemers and Bos 2012; Pagliaro, Ellemers, and Barreto 2011).

My choice of morality as the relevant yardstick follows the literature showing that in-group/out-group judgments are primarily moral (Aquino, Reed, et al. 2002; Haidt 2012; Iyengar and Westwood 2015; Pagliaro, Ellemers, and Barreto 2011; Tajfel and Turner 1979). In fact, morality seems to constitute the basis of any group identity (Ellemers and Bos 2012). Moreover,

morality has direct implications for politics, including in self-placement in the ideological spectrum (Graham, Haidt, and Nosek 2009), as well as positions on specific political issues (Kertzer et al. 2014; Feinberg and Willer 2013; Ryan 2017). This association indicates that morality is a central dimension of political attitude formation, as well as group-belonging, and should, thus, be an appropriate measure for comparing different forms of group-belonging.

I first will present data from the American National Election Studies to show that dislike across ideological lines is now comparable—and may even surpass—dislike across party lines. I also conducted two studies to test my argument. I collected and analyzed a random sample of over 40,000 tweets associated with five social attachments: ideology (the group of interest), partisanship, religion, race, and sexual orientation. I then compared the use of moral language across these groups. To get more purchase on isolating the association between social identities and morality, I also conducted a survey experiment. Participants in four treatments—ideology, party identification, religion, and sports preferences—were asked to identify themselves with an identity (liberal/conservative, Democratic/Republican, religious affiliation and favorite sports team). They were then asked to describe both people who shared their identities and those who opposed them.

The entries in both samples were examined using automated-text analysis. Results across samples indicate that texts in the ideology conditions are significantly more likely to use moral words, compared to all other social identities tested. Moreover, the stronger one identifies with an ideological label, the more likely one is to make use of moral judgments. This association was statistically insignificant for the other social identities examined.

Finally, individuals use different moral valencies to write about other people in their in or out-groups. Participants in the ideology experimental condition were 14% more likely to use positive (or “virtue”) words when describing someone who shared their ideology. Conversely, they were 9% more likely to use negative (or “vice”) words to describe people in the out-group. In the social media test, tweets about their ideological in-group were 2% more likely to use

virtue words, whereas those that focused on the out-group were 0.7% more likely to use vice words.<sup>1</sup> Although in the same direction, effect sizes for the other experimental conditions were substantially smaller.

Taken together, these two studies indicate that ideological self-identification is a polarized psychological attachment and that, contrary to current theories of ideology, it is relatively strong. If my argument is correct, the implications for our understanding of democracy, as well as to normative theories of electoral systems, are vast. Firstly, if ideological self-identification is essentially a moralized tribal attachment, then inter-group conflict (Gerber, Huber, and Washington 2010; Haidt 2012; Iyengar and Westwood 2015; Tajfel and Turner 1979), as well as the moralization of politics (Ryan 2017), should foreshadow very little collaboration across ideological lines. Secondly, understanding ideological self-placement as affective, polarized and strong should not automatically make us dismiss ideological labels as irrelevant to democratic outcomes; rather, it should add to the calls for a democratic theory that accounts for our social identities as an integral part of political behavior (Achen and Bartels 2016).

## 5.1 Why Affective Polarization?

Much of recent research on political behavior has focused on the concept of affective polarization. The term, coined by Iyengar, Sood, and Lelkes (2012), refers to the increased dislike across party lines. Less attention has been given to affective polarization across ideological lines, though those scholars who have looked at it (Iyengar, Sood, and Lelkes 2012; Kinder and Kalmoe 2017) found no evidence that it existed. Their analysis, however, stopped in 2012, the last year for which they had data.

To get at affective polarization, Iyengar, Sood, and Lelkes (2012) used the ANES feeling thermometer—a set of questions in the ANES in which respondents are asked to rate how they

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1. Smaller effect sizes should be expected in the social media test, due to attenuation bias, as I will discuss later in this chapter.

feel about several groups, institutions, and political figures. It goes from 0 (very cold) to 100 (very warm). Affective polarization can be measured by subtracting the warmth one feels in the feeling thermometer toward the in-group (e.g., how warmly liberals feel toward liberals) by the warmth one feels toward the out-group (e.g., liberals' feelings toward conservatives). By taking the average of this subtraction for every election year for which we have data, we can gauge whether or not affective polarization has been decreasing, increasing, or remaining stable over time. This measurement has now become standard in the literature (Abramowitz 2014; Iyengar and Westwood 2015; Kinder and Kalmoe 2017; Lelkes 2019; Mason 2018a; Webster and Abramowitz 2017).

In Figure 5.1, I expand the analysis of ideological affective polarization to include 2016.<sup>2</sup> The results show that it has steeply increased since 2008, to the point that, in 2016, it surpassed—though not significantly—partisan affective polarization.

Therefore, there is at least some evidence of ideological affective polarization. That is: not only ideological labels are prevalent and stable, but voters seem to attach affective value to them. This is suggestive of the identity-based nature of ideological identification. The next chapter will also examine whether there is, simultaneously, an issue-based dimension to it.

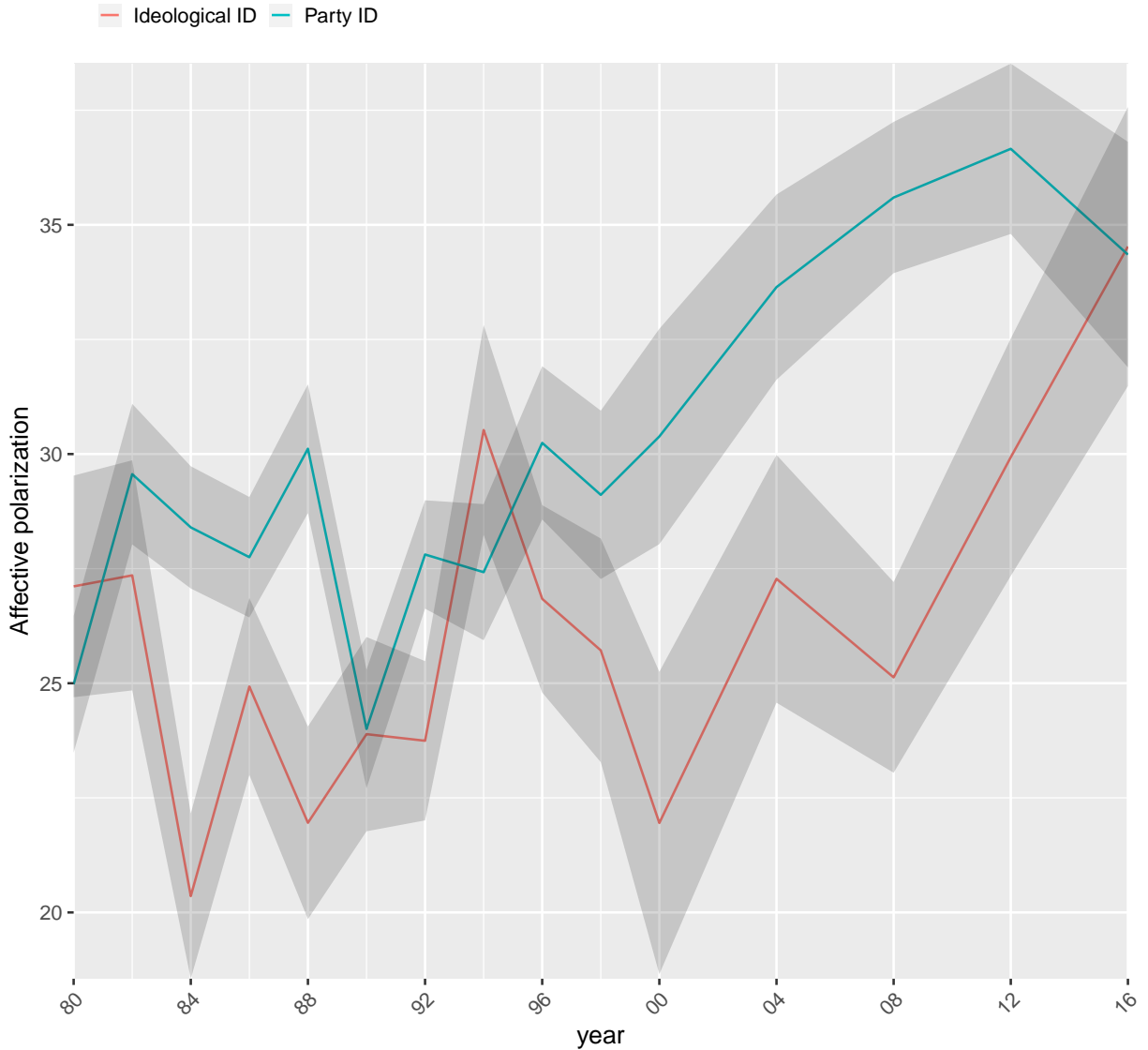
## **5.2 Putting Ideology to the Test**

According to the argument I have presented so far, thus, ideology can be (at least partially) understood as a social identity. “Liberal” and “conservative” are hence labels used by individuals to place themselves and others within a social group and make judgments on these people.

This conceptualization opens the possibility of comparing ideological self-identification to other well-understood social identities, such as partisanship and religion (Green, Palmquist,

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2. Tabulated data are in Table C.1, in appendix C.1.



Source: ANES cumulative data file. Only face-to-face interviews included. Survey-consistent robust standard errors used to compute confidence intervals.

This plot indicates that, although ideological affective polarization (in red) has fluctuated over time, it has increased consistently over the last three measurements, to the extent that it is now comparable to partisan affective polarization (in blue). The tabulated data can be viewed in the appendices.

**Figure 5.1:** Affective ideological and partisan polarization over time

and Schickler 2002). But how should we make such a comparison? Directly asking individuals to rank how attached they feel to different aspects of their identities can produce biased results, as some identities may be socially more desirable than others. Research has shown, for example,

that Americans are reluctant to publicly admitting to their true partisanship (Klar and Krupnikov 2016).

Therefore, in order to better approximate one's true attachment to a social identity, we, researchers, would need an instrument that is (1) measurable and (2) directly associated with the degree of attachment with a group. Fortunately, such an instrument exists: morality.

### **5.2.1 Why Morality**

My choice of morality to measure social attachments is not arbitrary. Researchers of morality have shown that it is core to one's identity and forms the basis of most other social judgments (Aquino, Reed, et al. 2002; Haidt 2012). In fact, it is strongly associated with how we make judgments about who belongs in the in and out-groups (Ellemers and Bos 2012; Pagliaro, Ellemers, and Barreto 2011).

Additionally, judgments about members of the in-group and the out-group are essentially moral, even when not explicitly framed as such. It goes so far as the willingness to punish others for not belonging to the same group (Tajfel and Turner 1979). This result has been replicated when the groups are political parties and include moral evaluations such as trustworthiness (Iyengar and Westwood 2015). Together, these pieces of evidence indicate that morality is a central part of identity attachment.

Morality is notably relevant for two particular social identities: religion (Aquino, Reed, et al. 2002; Graham, Haidt, and Nosek 2009; Haidt 2012) and politics (Feinberg and Willer 2013; Graham, Haidt, and Nosek 2009; Haidt 2012; Kertzer et al. 2014; Ryan 2017; Weber 2013).<sup>3</sup> Indeed politics can be understood as the negotiation between different moral priorities (Weber 2013). Not coincidentally, psychologists have documented an association between moral and political views. Graham, Haidt, and Nosek (2009) found that moral values played a central

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3. I will discuss the association between morality and these two identities—as well as all others included in the two studies—in more depth when I explain the research design, in the next sections.



role in one's placement on the ideological spectrum.<sup>4</sup> The same association has been found on specific issues, from the environment (Feinberg and Willer 2013) to foreign policy (Kertzer et al. 2014). Moreover, framing an issue morally affects the degree to which people feel committed to a policy proposal, as well as their willingness to compromise on it (Ryan 2017).

Importantly, my argument does not refer to any specific moral system and its impact on group affiliations. Nor am I testing a specific causal theory of morality and political attitudes. Rather, I am more modestly claiming that the more strongly attached to a group an individual is, the more moralized that identity will be. As I will discuss in the next section, this approach offers testable hypotheses which can appropriately measure the object of this dissertation: ideology.

## 5.2.2 Hypotheses

From the argument I have presented, I derived three hypotheses:

1. The stronger a group affiliation, the more morality will be salient when group-belonging is considered. Consequently, the strength of a social identity can be gauged from the use of moral language when evaluating group affiliations. If ideology is more strongly associated with moral language than other social attachments, then this is evidence that it is a relatively stronger social identity. The reverse is naturally also true—if the association is weaker, then it is evidence that individuals feel relatively less attached to the ideological label they most identify with than to other aspects of their identity.
2. Within a group, the more strongly one is attached to that group, the more she will invoke morality when thinking about group identity—eg, weaker ideologues' language should be less loaded with morality than for those whose ideological affiliation is stronger.

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4. The direction of causality has been called into question (Hatemi, Crabtree, and Smith 2019; Smith et al. 2016). These researchers, however, were still able to replicate the correlation between moral views and ideology, which suffices for the purposes of this chapter—morality as a measurement.

3. The stronger the group attachment, the more likely members of that group will be to see in-group members as moral and out-group members as immoral. Put differently, social attachments more central with one's sense of self should be associated with more benevolent judgments of other group members and harsher judgments of those who do not share one's identity.

With those hypotheses in mind, I will now turn to two studies that seek to measure the relative strength of ideological labels.

### **5.3 Study 1: Moral Discourse on Twitter**

To test these hypotheses, I collected and analyzed a random sample of 43,358 social media posts in the microblogging platform Twitter collected from June 1, 2009, to November 19, 2016. Twitter has become a major source of political campaigns, debates, and news since its creation in 2008 (Barberá and Rivero 2015). In 2011, it had 200 million active users, including 15% of United States internet users (Mislove et al. 2011). Twitter data has been used to predict phenomena from stock market trends to the movement of flu epidemics (Asur and Huberman 2010). It hence provides a unique opportunity to test my hypotheses in real life discourse, with big data, without interference on the part of the researcher.

Although Twitter data provides invaluable insight into political discourse, they must be interpreted with caution. On one hand, Twitter users tend to be more urban and more conservative than the US population as a whole (Barberá and Rivero 2015). Moreover, these posts are voluntary manifestations. If they may provide a realistic insight into attitudes, they may also be loaded with social desirability or cloaked under the anonymity characteristic of the internet. Nonetheless, they may be of value for testing my argument precisely due to some of their supposed shortcomings: firstly, they test my analysis on a conservative-leaning sample, in direct contrast to the experiment presented below; secondly, they offer a peak at on-going political

debates; and thirdly, they contain voluntarily-given judgments, rather than those prompted by an experiment.

### 5.3.1 Sample

I searched Twitter, through the platform Crimson Hexagon, for posts from the United States, in English, containing terms related to five social identities: ideology (the group of interest), party identification, race, religion and sexual orientation. Crimson Hexagon is a proprietary platform which provides access to millions of media posts in several different websites. The advantage of this tool is that it generates a random sample of 10,000 tweets for each search in its system, rather than the results obtained through the Twitter API, which show only the most recent posts (Hitlin 2013).<sup>5</sup> While it is true that several studies with social media data use far larger samples (e.g., Barberá and Rivero 2015; Barberá 2015; Brady et al. 2017; Steinert-Threlkeld et al. 2015), they often do not use a random sample of tweets over time, as I do. In a choice between an unbiased random sample and more power with a larger sample, I chose the former. Regardless, as it will become clear from the results, power is not an issue with my analysis.

I chose these four identities to compare with ideology for different reasons: party identification is traditionally viewed by political scientists as the strongest form of political attachment (Campbell et al. 1960; Green, Palmquist, and Schickler 2002; Achen and Bartels 2016; Iyengar and Westwood 2015; Iyengar, Sood, and Lelkes 2012; Greene 1999). Likewise, race is seen as an exceptionally strong social affiliation (Appiah 1994; Green, Palmquist, and Schickler 2002)—one that has long played a central role in American politics (Kinder and Sanders 1996; Sears, Sidanius, Bobo, et al. 2000) —, while sexual orientation only became salient as an identity in the last few decades (Cox and Gallois 1996). Finally, religious affiliation has been traditionally

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5. The distribution of tweets in my sample over time can be viewed in Figure C.1, in the appendices. It indicates that the numbers of posts increases with time, as expected from a growing social network, peaking in 2014. It does not seem to be biased toward more recent posts or to posts in election years, which might have confounded the results.

viewed by scholars as possibly the strongest social identity (Green, Palmquist, and Schickler 2002; Haidt 2012). These offer, thus, a wide-window of comparison with ideology

The words searched for in each identity can be viewed in Table 5.1.<sup>6</sup> Naturally, this list is not exhaustive. Developing a comprehensive list of terms associated with these identities is far beyond the scope of this chapter.<sup>7</sup>

Tweets in the five groups overlapped significantly, because the same tweet could refer to both, say, Republicans and conservatives. This post would thus be classified both under the ideology and party identification identities, which may add noise to the data. I thus also conducted the analysis with a restricted sample of tweets that referred exclusively to one group. Those are the results that I will discuss in the main body of the dissertation, though results for the unrestricted sample are in the appendices. They do not differ substantively. Table 5.2 shows the N per treatment in both samples.

A look at randomly selected tweets in each identity, as in Table 5.3, suggests that the sample strategy I adopted was accurate in capturing posts that referred to the identities of interest.

### **5.3.2 Variable Operationalization**

Any quantitative analysis makes assumptions about how the variables are distributed—or, at a minimum, needs to simplify complex concepts into measurable data. I will now explain how I have dealt with those choices.

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6. All terms were searched for in the plural, to increase the chance that they referred to a group of people, instead of a single person. As I hope it became clear from my argument, the moral dimension of social identity happens at a group level.

7. Although I considered including slang terms and political insults referring to liberals, conservatives, Democrats and Republicans, I decided against doing so for several reasons. Most importantly, including such terms would have made my experimental and observational designs not directly comparable. Additionally, while terms such as “liberal” and “Republican” have been validated by political scientists since the 1950s (Berelson, Lazarsfeld, and MacPhee 1954), the valence of emerging ideological labels, slangs and insults has not, to the best of my knowledge, been established, making them hard to interpret. Regardless, including slangs and insults should exaggerate, not underestimate, my results as those terms are likely to be more loaded with affect. I also conducted a preliminary analysis with a sample obtained with fewer search terms and my results were virtually identical.

**Table 5.1:** Terms searched for per social identity

Ideology	Party ID	Race	Religion	Sexual orientation
Conservatives	Democrats	African Americans	Agnostics	Gay men
Liberals	Independents	Asian Americans	Atheists	Gay people
Moderates	Republicans	Asian men	Buddhists	Gays
		Asian people	Catholics	Homosexual men
		Asian women	Hindus	Homosexual people
		Asians	Jews	Homosexual women
		Black men	Mormons	Homosexuals
		Black people	Muslims	Lesbians
		Black women	Orthodoxes	LGBT people
		Blacks	Protestants	LGBTQ people
		Hispanic men		Straight men
		Hispanic women		Straight people
		Hispanics		Straight women
		Latinas		
		Latino men		
		Latino women		
		Latinos		
		Native Americans		
		Nonwhites		
		People of color		
		White men		
		White people		
		White women		
		Whites		

**Table 5.2:** *N* per identity

	Unrestricted sample	Restricted sample
Ideology	9,642	7,656
Party ID	9,966	8,138
Race	10,151	7,951
Religion	8,736	7,266
Sexual orientation	8,735	7,500
Total	43,358	39,160

**Table 5.3:** Random examples of tweets per identity

	Tweets
Ideology	RT @MoElleithe Monday. @Hadas_Gold interviews @davidbrockdc. “Is the Media in Cahoots with Conservatives?” A @GUPolitics joint. <a href="http://t.co/2Z4whgmKI">http://t.co/2Z4whgmKI</a>
Party ID	RT @Imaumbn #MyFirstTimeBeingHigh I forgot Democrats started The KKK so I voted for them because they were promising me a free iPhone and some Mt. Dew.
Race	#NoRacial but white people out here getting drunk and betting on horses...lmao they know how to have fun
Religion	@JIDF I don't expect the gov't of Israel to "take care of all Jews". It's already far too socialist in Israel. @isupportisrael_
Sexual Orientation	RT @KxngBoo "Garnet is Aro, cause she doesn't wanna date Jamie" MY DUDE, SHE DOESNT WANNA DATE JAMIE CAUSE SHE IS TWO LESBIANS

## Moral Language

Moral words in both studies were defined according to the dictionary compiled by Graham, Haidt, and Nosek (2009). This dictionary was created as part of Haidt and Joseph's (2004) Moral Foundations Theory—a theoretical approach which divides morality into a set of five foundations: care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, sanctity/degradation. An advantage of using the Moral Foundations Dictionary is that Graham, Haidt, and Nosek's (2009) correlational results have been extensively replicated in an array of different samples and with different contexts (Feinberg and Willer 2013; Graham et al. 2013; Hatemi, Crabtree, and Smith 2019; Kertzer et al. 2014; Smith et al. 2016), including Twitter itself (Brady et al. 2017).

To reduce the assumptions to a bare minimum, neither the participants' answers nor the dictionary words were preprocessed, except for removing punctuation and numbers (which naturally does not affect the count of words). The only stemmed words—ie, words that had their prefixes or suffixes removed) were those that were originally stemmed in Graham, Haidt, and Nosek's (2009) work hence no additional assumption was made on my part.<sup>8</sup>

Overall, there were 359 words in the dictionary. Graham, Haidt, and Nosek (2009) classified words according to their valence. Words could, thus, be coded as positive (i.e., “virtue”) or negative (“vice”). Some words were unclassified. The number of words per category can be viewed in Table 5.4, while Table 5.5 contains randomly selected examples of 10 words in the dictionary.

The number of moral words was calculated as follows: I created a matrix where the each column contains a unique word in the corpi of all entries and the rows refer to each observation

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8. Ideally, I would replicate my results with another dictionary of moral words. However, to the best of my knowledge, no other such compilation exists in the social sciences literature. Nonetheless, I made several attempts to replicate my results. I conducted the same tests using different methodologies: stemming all dictionary words and adding synonyms from Wordnet, a much-used thesaurus (Pedersen, Patwardhan, and Michelizzi 2004). The results were substantively the same as those presented in this chapter. In fact, effect sizes were much larger, because the tests became more sensitive. Nonetheless, I stuck with the most conservative tests of my hypotheses—those that required the fewer assumptions on my part.

**Table 5.4:** Number of dictionary words

Virtue	Vice	Unclassified	Total
151	167	41	359

**Table 5.5:** Examples of Moral Foundation Dictionary words

virtue	vice
legal*	preference
caring	disobe*
commune*	indecen*
honest*	killing
group	ruin*

\*: stemmed word

(a tweet, in this case). Each cell is, thus, the number of times each word appears in each observation. I then removed the columns with words not included in the dictionary. Finally, I summed all the columns to obtain a count of moral words per tweet.

The total number of moral words in my Twitter sample was 15,030, for an average of 0.38 per tweet.<sup>9</sup> The variance was 0.48 and the mean proportion of moral words to all words in the corpi was 38%.

## Identity Strength

For the Twitter sample, ideology estimates were obtained using the method developed by Barberá (2015) (see also Barberá et al. (2015)). His work estimates the ideology of Twitter users based on the political elites they follow on the platform. His assumption is that the more ideological elites a user follows, the more extreme she will be herself. His estimates follow a standardized normal distribution, in which 0 represents a perfectly moderate Twitter user.

Although Barberá (2015) presents several robustness checks of his method—and although

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9. Those values refer to the restricted sample—the one I use in the main results presented here. The total number of moral words for the unrestricted sample were as follows: 17,070; mean = 0.39; variance = 0.49; mean proportion of moral words to all words = 0.04.



it provides valuable insights –, it should not be taken uncritically. Firstly, the list of elites on Twitter are constructed by Barberá (2015) himself. The estimates are, thus, heavily based on the author’s classifications of political leaders. More importantly, these estimates assume away the possibility that a politically active Twitter user, in spite of being extremely ideological, might follow elites from the opposite side of the spectrum. These estimates are therefore not directly comparable to the survey approach I use in my experiment.

Furthermore, there is, unfortunately, no empirical approach to measuring the strength of the other identities in my sample (party identification, race, religion and sexual orientation).<sup>10</sup> Hence, the test of hypothesis 2 will be restricted to those tweets focusing on ideology.

### **Defining In and Out-Groups**

A tweet was considered to be about the in-group if it referred to the same ideological label as the one attributed to the author. Conversely, tweets authored by a liberal but which referred to conservatives, as well as tweets authored by conservatives but that were about liberals, were classified as pertaining to the out-group.

### **Modeling**

Most of my results in the next section will be presented as nonparametric differences in means. When necessary to model the data, however, to include control variables, I will use a negative binomial model. The negative binomial is adequate for count data with high variance, which is precisely the case of the count of moral words variables in my analyses.<sup>11</sup>

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10. Although it could be argued that Barberá (2015) are actually measuring partisanship, rather than ideology. Nonetheless, I prefer to follow their own terminology.

11. All my results are robust to OLS and Poisson regressions. Indeed, the significance level is higher in the latter because the Poisson models are likely to underestimate the variance in the data. The OLS model is the most conservative test of my hypotheses, as it is less efficient in replicating the data-generating process and thus overestimate the variance. For all results, see appendix C.2.

### 5.3.3 Results

#### Hypothesis 1: Association Between Social Attachment and Moral Language

According to my argument in this chapter, the relative strength of a group attachment can be measured through its association with moral language. The stronger an identity, the more moral words one is likely to use when writing about it, as stated in hypothesis 1.

I find that texts containing ideological labels had a total of 3,581 moral words, while those about other identities had 3,411 (party identification), 2,045 (race), 3,285 (religion) and 2,452 (sexual orientation).<sup>12</sup>

In Figure 5.2, I plot the differences in the mean number of moral words per social identity studied.<sup>13</sup> Arrows indicate 95% confidence intervals.<sup>14</sup> As ideology is the reference group here, a positive value indicates that texts in the ideology condition contain, on average, more moral language than the identity of comparison.

The differences of mean moral words range from a minimum of 0.016, compared to religion to a maximum of 0.21, when ideology is compared to race. In all cases, the mean of the ideology condition is higher than the other social identities I compared it to. These differences are statistically significant for all groups, except for religion.

Thus, moral words are used relatively more in texts about ideological labels than those about other conditions. Though these differences in means may look relatively small, effect sizes range from as little as a 3% increase on the probability of using a moral word (against religion), to as much as 82%, when ideology is compared to race.

I also ran negative binomial regression analyses with the number of moral words as the dependent variable and the treatments as the independent variables.<sup>15</sup> I included the very few

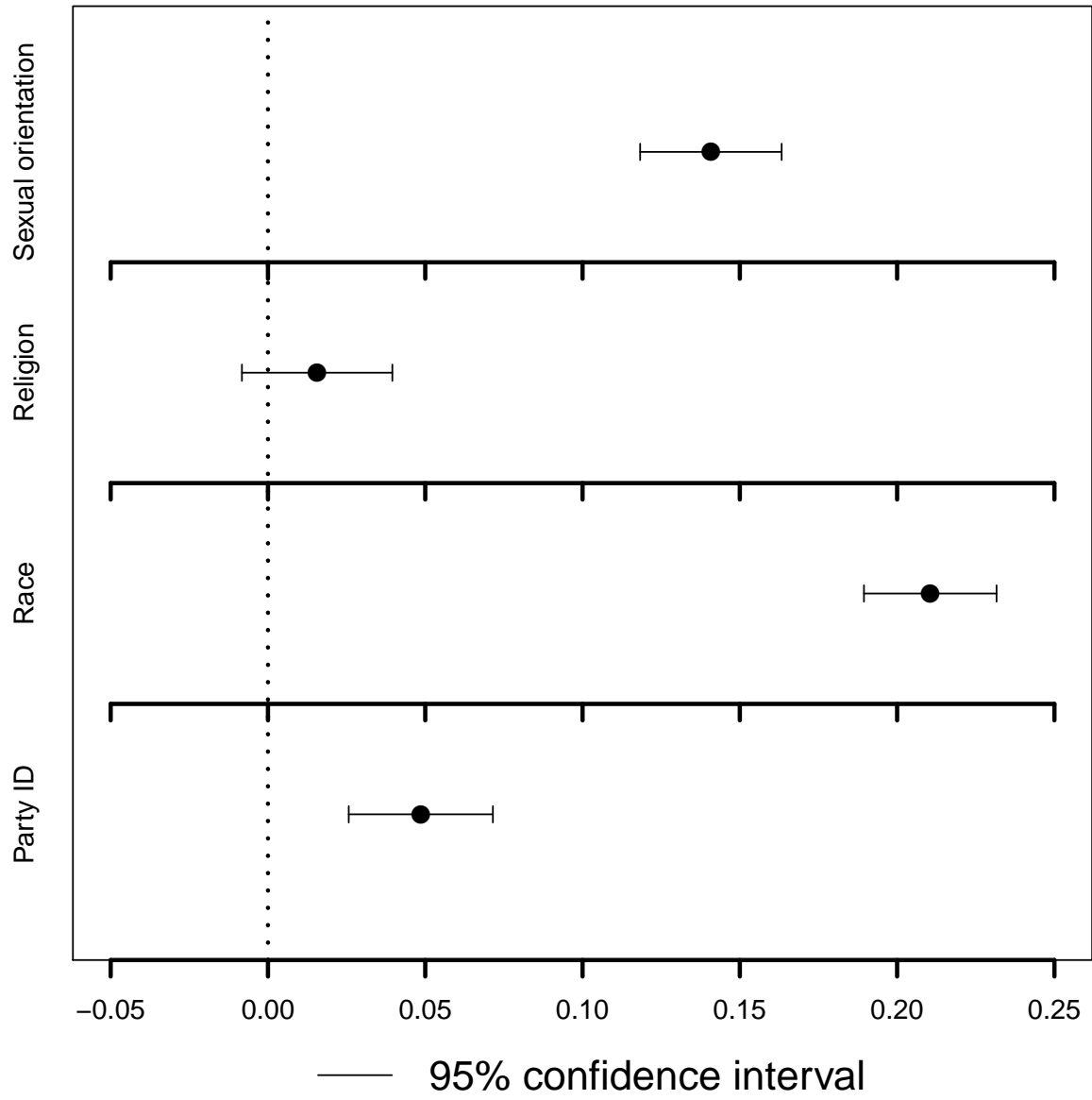
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12. The distribution of moral words per identity is displayed in Figure C.2; a visual comparison of the sum of moral words in each group is shown in Figure C.4, both in the appendices.

13. The data for Figure 5.2 can be viewed in Table C.2, in the appendices.

14. For what it is worth, these results are also significant at much higher significance levels, including 99.9%.

15. A possible concern is that, by using the total count of moral words as my dependent variable, rather than the



**Figure 5.2:** Difference in mean moral words per social identity–study 1

metadata available: number of tweets and followers of the Tweet's author, as well as the number of Twitter users he or she follows. I also controlled for the date when the Tweet was posted—the only control to have a significant effect, suggesting that, as the rest of society, Twitter is also growing more polarized with time.

One additional possibility is that, when measuring moral words, I am actually measuring sentiment—positive or negative feelings. All my regressions, thus, control for three sentiment scores, measured through three of the most used sentiment analysis methods (Liu, Hu, and Cheng 2005; Hu and Liu 2004; Nielsen 2011; Socher et al. 2013). My results should, thus, be interpreted as a lower bound estimate; a conservative test of my hypothesis. In reality, we should expect morality, identity and sentiment to be strongly correlated with each other. By controlling for sentiment, I am thus forcibly muting some of the association between identity in morality. Nonetheless, as I did throughout this chapter, I opted for the most conservative test possible of my hypotheses.

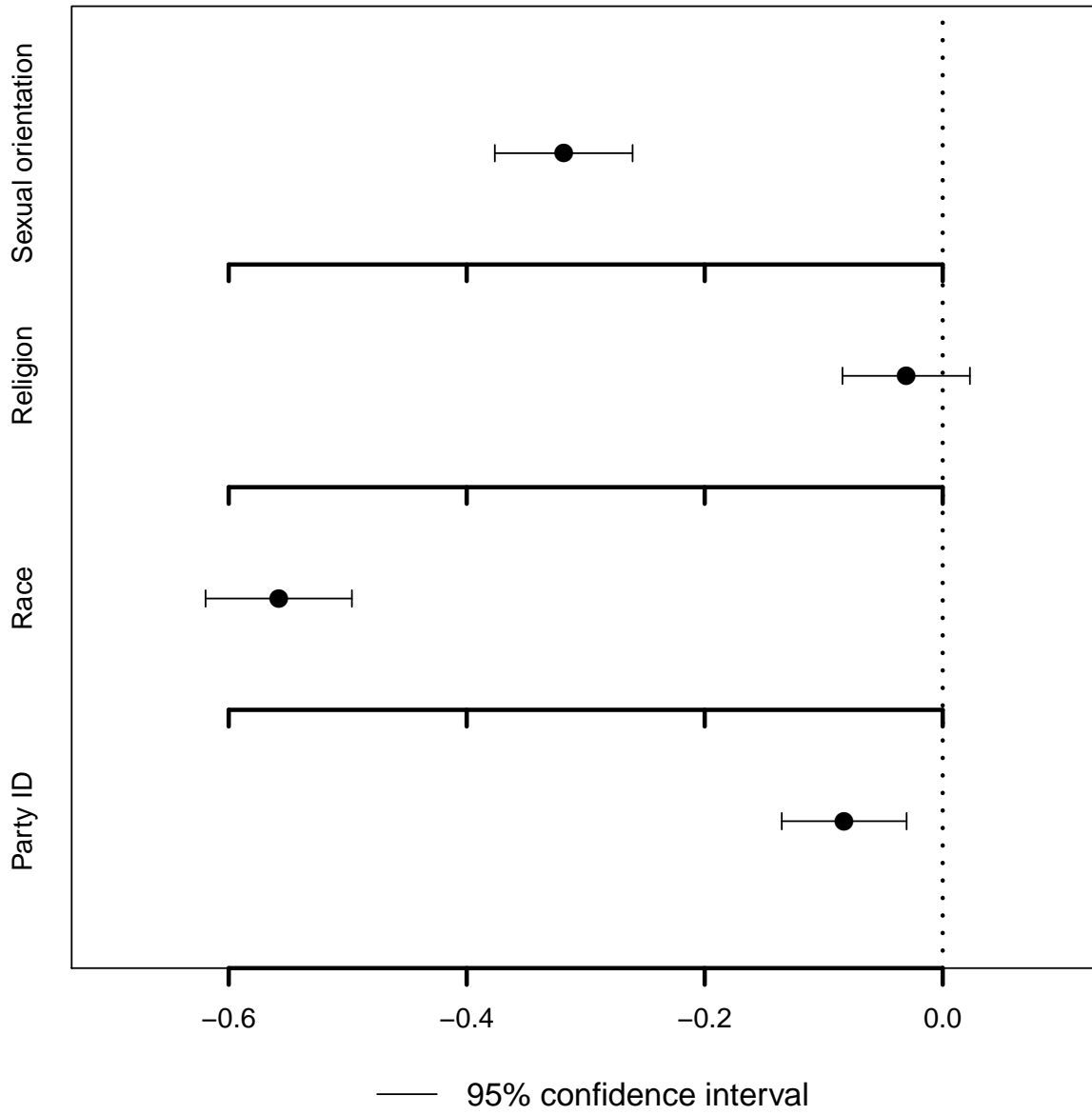
The results are summarized in Figure 5.3. To facilitate interpretation, the figure shows only the coefficients for the social identity variable. The full results can be viewed in Table C.7, in the appendices.

Because ideology is the baseline in this model, a negative coefficient indicates that the other treatments have a relatively smaller effect in the use of moral words. This difference is highly significant for all conditions, with the exception of religion. The results in Figure 5.3 hence confirm the difference of means test.<sup>16</sup>

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proportion, I might, in fact, be measuring the number of all words—moral and otherwise—rather than morality itself. I decided against using proportions as my dependent variable because, by doing so, I could simply be capturing the prevalence of morality in language over all, which might not vary across treatments. To assuage that concern, I ran auxiliary regressions, presented on Table C.10, in the appendices, which substantively yields the same results shown here.

16. Simulated first differences, plotted on Figure C.8, in the appendices, remarkably approximate those in Figure 5.2—not only in their expected values, but also in the confidence intervals.



**Figure 5.3:** Negative binomial regression estimates of social identity on moral language

## **Hypothesis 2: Association Between Attachment Strength and Moral Language**

If my argument in this chapter is correct, we should expect that the more strongly one identifies as “liberal” or “conservative”, the more she should invoke morality when cued about these identities. Testing this hypothesis, Figure 5.4 shows the results of negative binomial and OLS—an easier to interpret effect estimate—regressions for identity strength on the count of moral words. All models included controls but only the coefficient of interest is shown.

Ideology strength has a very small and statistically insignificant association with the use of moral words. One possible explanation for this result is that, as argued above, the measurement of ideology on Twitter is noisy—i.e., attenuation bias. Study 2 will provide a more precise test of this hypothesis, as ideology is measured in an experimental setting through the standard 7-point scale.

## **Hypothesis 3: Differential Judgment of In and Out-Group Members**

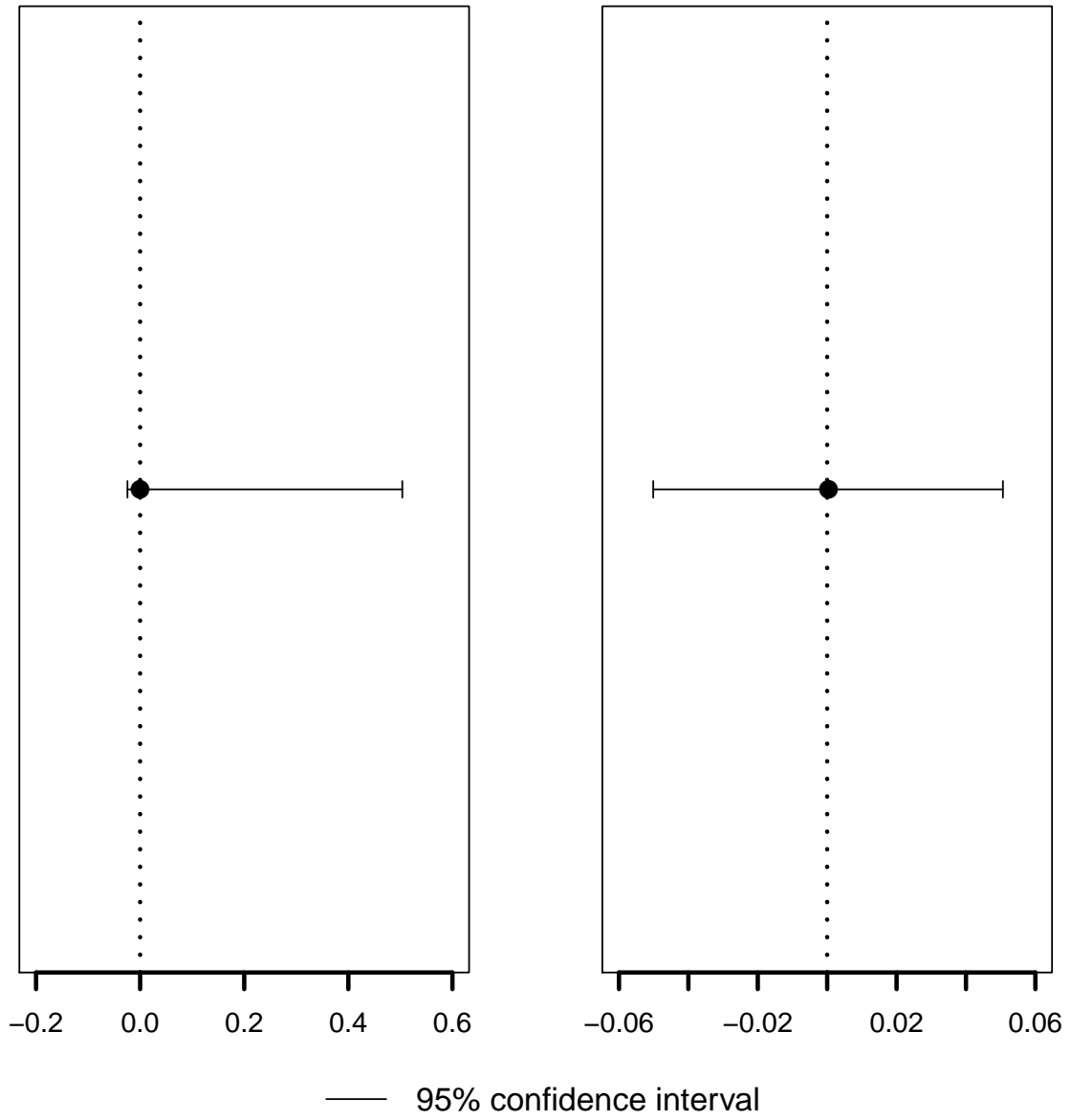
Finally, as per hypothesis 3, I wanted to know whether the use of moral words differed between treatments for judgments of the in and out-groups. If my argument is correct, we should expect that texts referring to the author’s identities should contain relatively more virtue words. Conversely, texts about the out-group should be richer in vice words.

Here, we should be interested in the proportions of virtue and vice words to all moral words in the texts referring to the in and out-groups. It could well be the case that either the in or out-groups simply elicited stronger reactions and thus contained more moral words over all. However, my argument is simply that judgments about the in-group should be relatively more benevolent than those about the out-group.<sup>17</sup> Proportion tests should be able to account for this possibility.

Figure 5.5 plots the difference in proportions of virtue and vice words between the in and

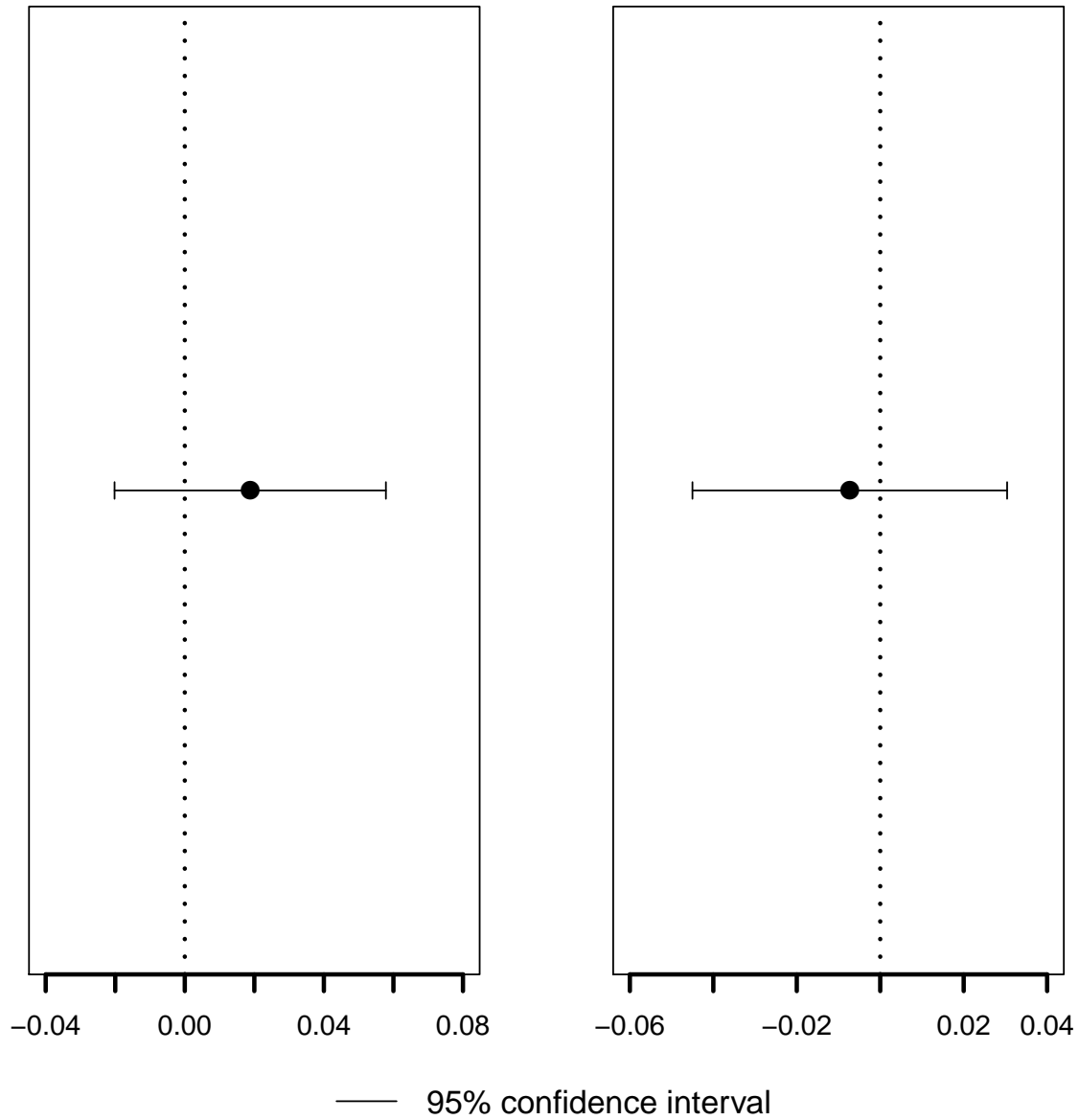
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<sup>17</sup> Indeed, the prevalence of moral words over all is higher on texts about the out-group, as shown in Figure C.6, in the appendices.



**Figure 5.4:** Regression estimates of ideology strength on moral language

out-group, as well as their 95% confidence intervals. A positive value indicates that texts about the in-group contain relatively more words of that kind, while a negative value indicates that the given category of moral words is more prevalent on tweets about the out-group.



**Figure 5.5:** Difference in proportions between in and out-group

Results are in the expected direction; liberal and conservative Twitter users are, on average, 2% more likely to use virtue words when writing about their own kind. Conversely, tweets



about the ideological out-group contain, on average, 1% more vice words, though neither result is statistically significant. As previously discussed, this may have to do with the fact that, on Twitter, ideology can only be measured indirectly. Study 2 will again provide a much clearer test of this hypothesis.

## 5.4 Study 2: Survey Experiment

As my goal was to measure identity strength isolated from other factors, I designed a survey experiment that would compare evaluations of in and out-group members in four social attachments. I did not want to prime morality, however, so all survey questions were open-ended, to allow participants to manifest their opinions in a relatively cleaner context, in which the only stimulus was the identity itself. I did, however, examine the answers quantitatively, with the same method used in study 1.

To test hypotheses 1 and 2, I randomly assigned respondents to one of four treatment groups: ideology (the group of interest here), party identification, religion and sports preference.<sup>18</sup> Party identification and religion serve as the direct replication of study 1, while sports loyalty has been seen as a relatively weak social attachment (Kwon and Armstrong 2004; Kwon, Trail, and Anderson 2005), thus providing an appropriate non-political comparison.

Across all conditions, participants first viewed the following prompt, with only minor changes across treatments to account for the number of questions asked in each treatment:

We will first ask you a couple of questions about yourself. Next, we will ask you to think of several people, some of which you know personally and some of which you don't. We will then ask you a couple of questions about each of these people. Please try to answer sincerely and thoroughly.

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18. It could be argued that this design is not experimental per se—after all, the different ideological labels—“liberal” or “conservative”, are not exogenously assigned. I do not quibble with the specific terminology preferred by different scholars but it is relevant to point out that there was full randomization within an otherwise comparable population.

Then, they were asked about their identity according to their randomly selected treatment. Ideology and party identification were measured according to the 2016 American National Election Studies questionnaire. In the sports treatment, respondents were asked to write-in the name of their favorite sports team and then asked how strongly they supported that team. The religious affiliation variable was measured according to the Pew Research Center's questionnaire design guidelines.

After answering about their own identification, participants were then asked to describe someone they knew personally and a public figure who both shared their identity—eg, liberals describing liberals and conservatives describing conservatives—and who opposed their identity—eg, liberals describing conservatives and vice-versa. Additionally, participants were asked to describe individuals outside the polarized dimension. In the case of the ideology treatment, this took the form of asking participants to identify moderates and people who “didn't care for politics”. These questions were included to allow for a wide range of out-group possibilities. Participants were also asked to identify the person they had in mind, to both measure respondent's engagement with the survey and ensure that they were thinking of a real person.

The order of the questions was randomized. Overall, this amounted to eight questions in the ideology and party identification treatments, six in the sports treatment and either eight (for religious individuals, who were asked to describe people who either shared or did not share their religion) or four (for atheists and agnostics, who were simply asked to describe religious and non-religious people) in the religion treatment. The questions were comparable across treatments. The open-ended nature of the descriptive questions was chosen in an effort to avoid priming morality—i.e., participants' use of moral language was not encouraged by the design. The complete protocol can be viewed in appendix C.3.1.

### 5.4.1 Sample

The experiment used a sample of undergraduate students at a large public university in the United States. Professors in four undergraduate courses agreed to present their students with the survey in the fall of 2016, adding up to 402 respondents.<sup>19</sup> The experiment was embedded in a larger survey.

Although 402 participants accessed the survey link, only 393 were selected into one of the four treatments (199 females, 179 males, 4 other gender). The number of participants per treatment is displayed in Table 5.6.

**Table 5.6:** Participants per treatment

	N	Male (%)	Female (%)	Other gender (%)
Ideology	97	35.05	58.76	2.06
Party ID	99	47.47	47.47	2.02
Religion	100	54	43	0
Sports	97	45.36	53.61	0
Total	393	45.55	50.64	1.02

Of those in the ideology treatment, 72 identified as liberal, 9 as conservative and 15 as neither. In the party identification treatment, 76 identified as Democrats (including leaners), 17 as Republicans (also including leaners) and 6 as independent/something else (excluding leaners). After they completed the experiment, all participants responded to a question measuring ideology. Out of those who were selected into a treatment, 245 identified as liberals, 56 as conservatives and 79 as neither.<sup>20</sup> A tabular representation of these data can be viewed in Table 5.7.

19. The convenience sample offers a challenge to external validity—it is not representative of the national electorate and, thus, the survey results cannot be directly generalized. Nonetheless, sampling undergraduate students offer some advantages, chief among them the fact that young adults between 18 and 24 are in the process of shaping their political identity (Jennings, Stoker, and Bowers 2009; Green, Palmquist, and Schickler 2002). I will thus measure the phenomenon as it is happening. Moreover, there is evidence that convenience samples of undergraduate students frequently generalize well to the population as a whole in psychological studies similar to the one proposed in this chapter (see, for example, Cooper, McCord, and Socha (2010), Druckman and Kam (2011), and Henrich, Heine, and Norenzayan (2010))

20. The left-leaning nature of my sample contrast with the right-leaning nature of Twitter, offering an interesting extension to study 1.

**Table 5.7:** Participants' ideology per treatment

	Liberal (%)	Conservative (%)	Moderate (%)	Ideology undeclared (%)
Ideology	61.86	9.28	20.62	3.09
Party ID	57.58	15.15	19.19	4.04
Religion	62	20	10	5
Sports	68.04	12.37	15.46	3.09
Total	62.34	14.25	16.28	3.82

Table 5.8 summarizes participants' engagement with the experiment per treatment. It indicates that almost all participants answered at least one of the questions and a majority in all treatments answered all of them, suggesting that participants were engaged with the experiment.

**Table 5.8:** Participants' engagement

	Answered at least 1 question (%)	Answered all questions (%)
Ideology	96.91	61.86
Party ID	95.96	67.68
Religion	96	79
Sports	98.97	67.01
Total	96.95	68.96

402 participants accessed the survey, but only 393 were randomly assigned to a treatment.

Even a cursory look through a random selection of entries, as shown in Table 5.9, is suggestive of how morality is strongly associated with the four identities examined. Words like “stealing” and “hard-working” all indicate a moral dimension to those judgments—even if those words themselves are not part of the Moral Foundations Dictionary.<sup>21</sup>

## 5.4.2 Variable Operationalization

The text analysis on study 2 mirrored exactly study 1, with a few additional robustness checks. In addition to the automated dictionary method described in study 1, I had coders manually count the number of moral words in each experimental entry, according to Graham,

21. These entries are reproduced here verbatim.

**Table 5.9:** Examples of entries

Entries	
Ideology	Comes from a middle class family in rural Illinois with very little racial diversity (predominantly white). Sees workers as stealing from the producers (or capitalists).
Party ID	Intelligent, inquisitive, dedicated, optimistic, spazzy.
Religion	Hardworking, respectful, smart, strong
Sports	Amazing

Haidt, and Nosek’s (2009) dictionary. The coders were blind to my hypotheses. The order in which they received the entries was randomized and they did not know the treatment assigned to each individual entry. The correlation of counts between the two coders was high (all moral words:  $R = 0.73$ ,  $t = 21.16$ ,  $p < 0.001$ ; virtue:  $R = 0.79$ ,  $t = 25.53$ ,  $p < 0.001$ ; vice:  $R = 0.46$ ,  $t = 10.35$ ,  $p < 0.001$ ). More importantly, the average counts of both coders for each observation were highly correlated to the computerized method (all moral words:  $R = 0.86$ ,  $t = 33.25$ ,  $p < 0.001$ ; virtue:  $R = 0.84$ ,  $t = 31.08$ ,  $p < 0.001$ ; vice:  $R = 0.75$ ,  $t = 22.65$ ,  $p < 0.001$ ).<sup>22</sup>

In the experiment, across conditions, participants used a total of 1,030 words—mean = 2.56 per participant (variance = 10.42). The mean proportion of moral words to all words in the corpi was 8%.

### **Operationalizing Identity Strength**

In comparison to study 1, identity strength was measured much more robustly. For ideology and party identification, those variables were based on the 7-point scales of the American National Election Study. For ideology, the scale goes from “extremely liberal” to “extremely

<sup>22</sup>. The instructions for the coders can be viewed in appendix C.3.2.

conservative”, whereas for party identification, the scale goes from “strongly Democrat” to “strongly Republican”. For both variables, I transformed them into a standard normal, in which 0 represents being a moderate or an independent, respectively. I finally took their absolute value in order to create the identity strength variables.

In the religion treatment, participants responded a comparable question, in which they had to position themselves into a scale going from “strongly religious” to “strongly not religious”. In the sports condition, the scale went from “very strong fan [of favorite team]” to “very weak fan”. These variables were also standardized and then their absolute values were taken, so that their effect sizes would be comparable across treatments.

### **Defining In and Out-Groups**

Texts were straightforwardly considered to be about the in-group if referred to an identity the author also shared—e.g., a participant who identified as liberal describing another liberal. Conversely, a text was considered to be about the out-group if it referred to an identity that directly opposed that of the author’s—e.g., a Republican describing a Democrat.

Only those participants who explicitly choose an identity—liberal/conservative, Democrat/Republican, a religious denomination or a favorite sport team—were included in this analysis.

## **5.4.3 Results**

### **Hypothesis 1: Association Between Social Attachment and Moral Language**

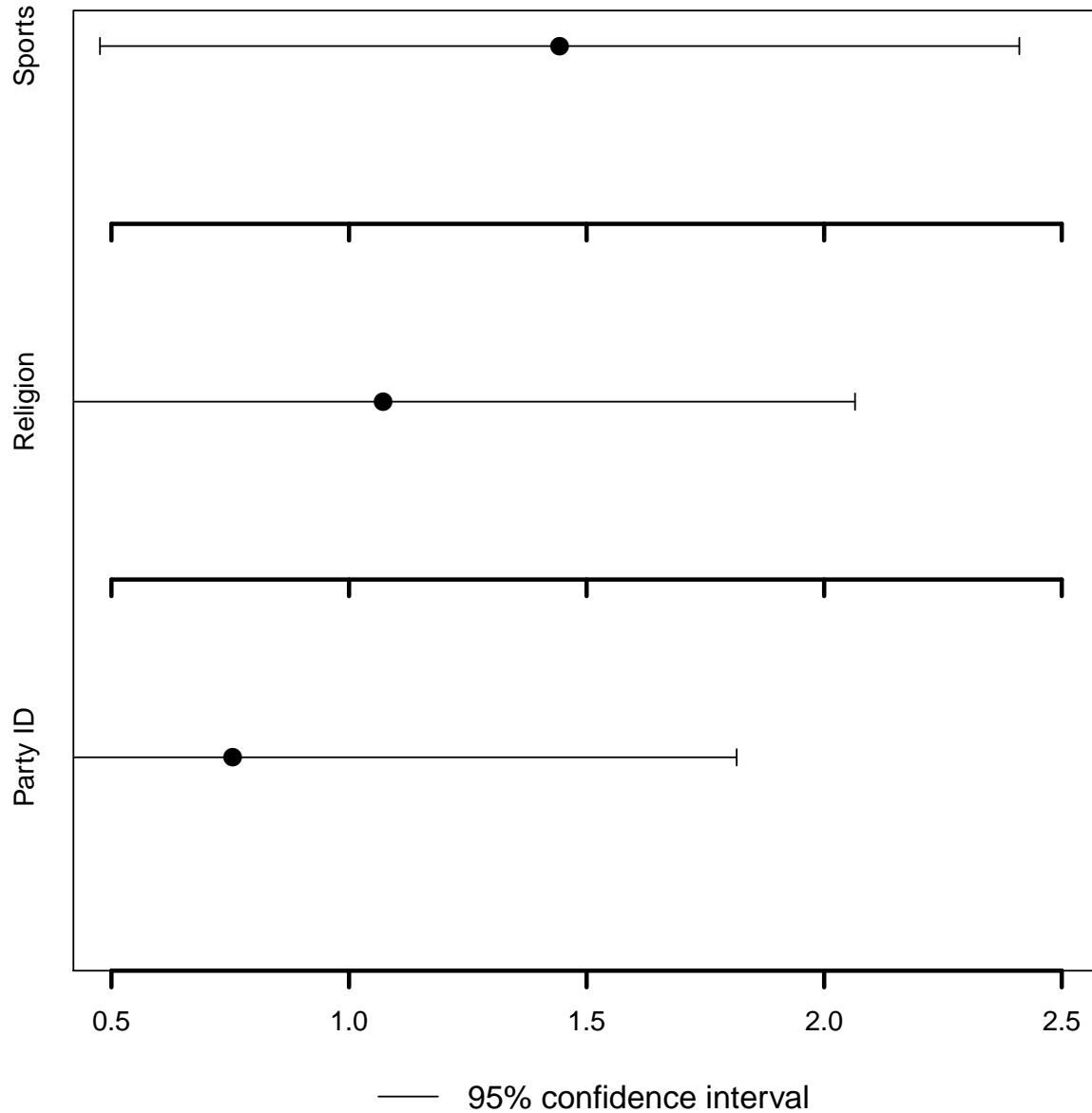
Texts in the ideology condition had a total of 329 moral words, compared to 261, 251 and 189 for the party identification, religion and sports treatments, respectively.<sup>23</sup>

Figure 5.6 displays the difference in mean moral words across treatments. As ideology is

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23. A visual representation of these data is in Figure C.10, in the appendices.

the reference group here, a positive value indicates that texts in the ideology condition contain, on average, more moral language than the identity of comparison.



**Figure 5.6:** Difference in mean moral words per social identity

The differences of mean moral words range from a minimum of 0.76, against party identification, to a maximum of 1.44, when ideology is compared to sports. In all cases, the mean of the ideology condition is higher than the other social identities I compared it to. Moreover, this

difference is significant at the 95% for all treatment groups, except party identification).<sup>24</sup>

More substantively, these results signify an increase on the probability of a participant in the ideology treatment using a moral word of 29%, compared to party identification; 46%, compared to religion; and 74%, compared to sports.

I also ran negative binomial regression analyses with the number of moral words as the dependent variable and the treatments as the independent variables. I added all demographic data available as controls. Those were students' gender, college major, ideology, parental education, age and level of interest in the 2016 presidential election, in addition to survey completion time, date, and the order in which the experiment was presented in the larger survey. Most of those controls did not have a consistently statistically significant effect on the count of moral words.<sup>25</sup> As in study 1, I also controlled for sentiment.

The results are summarized in Figure 5.7. To facilitate interpretation, the figure shows only the coefficients for the social identity variables. The full results can be viewed in Table C.17, on the appendices.

Because ideology is the baseline in these models, a negative coefficient indicates that the other treatments have a relatively smaller effect in the use of moral words than the condition of interest. The effect for sports is significant at the 95% confidence interval, while for party identification it is significant at the 90% confidence level.

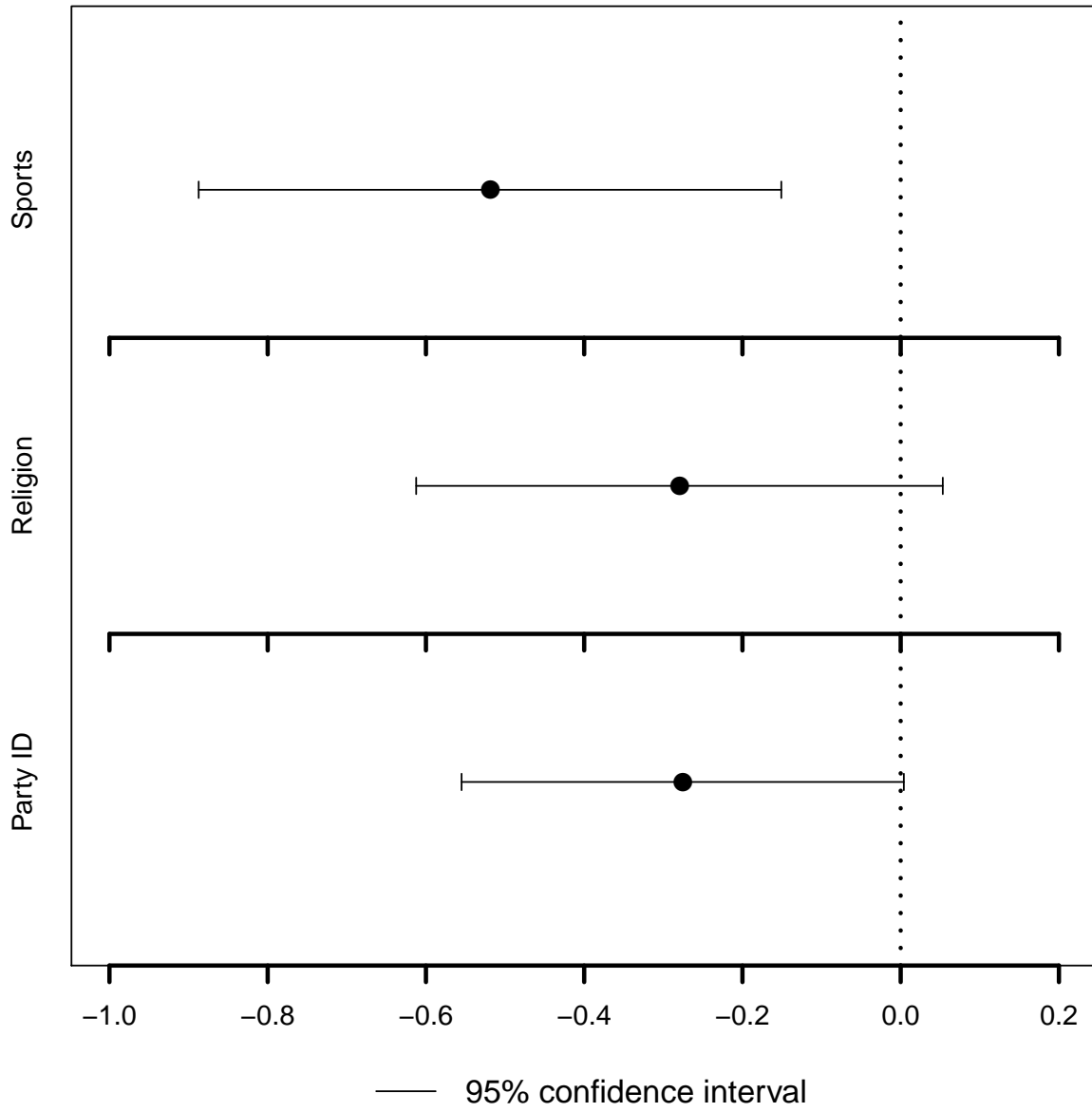
Over all, then, my experimental results confirm—and add to—my observational ones: texts

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24. These results refer to my entire experimental sample—ie, the effect on those intended to be treated. But because I have a measure of participants' engagement, as discussed above, I had coders examining the responses to the questions asking participants to identify who they had in mind when writing the descriptions. Coding instructions are in the appendices. I, thus, also conducted an analysis, also displayed in the appendices, on those considered to be engaged with the experiment by at least one of the coders. They also include alternative operationalizations for ideology and party identification, excluding, respectively, moderates and independents. The effects of these robustness checks are virtually the same displayed here.

25. The exceptions were the order in which the experiment was embedded within the survey and ideology strength—measured for all participants after they were done with the experiment. The former had a negative effect on the number of moral words—the later in the survey the experiment was presented, the less likely a participant was to use moral words. This result is to be expected; probably an effect of the respondent's growing impatient with the survey. Conversely, ideology strength had a significant positive effect on the number of moral words used by participants, which suggests an interesting hypothesis: maybe just being more ideologically extreme makes one see the world in more moral colors.





**Figure 5.7:** Negative binomial regression estimates of social identity on moral language

about ideology are more likely to contain moral words when compared to sports affiliation and, possibly, religion and party identification.

### **Hypothesis 2: Association Between Attachment Strength and Moral Language**

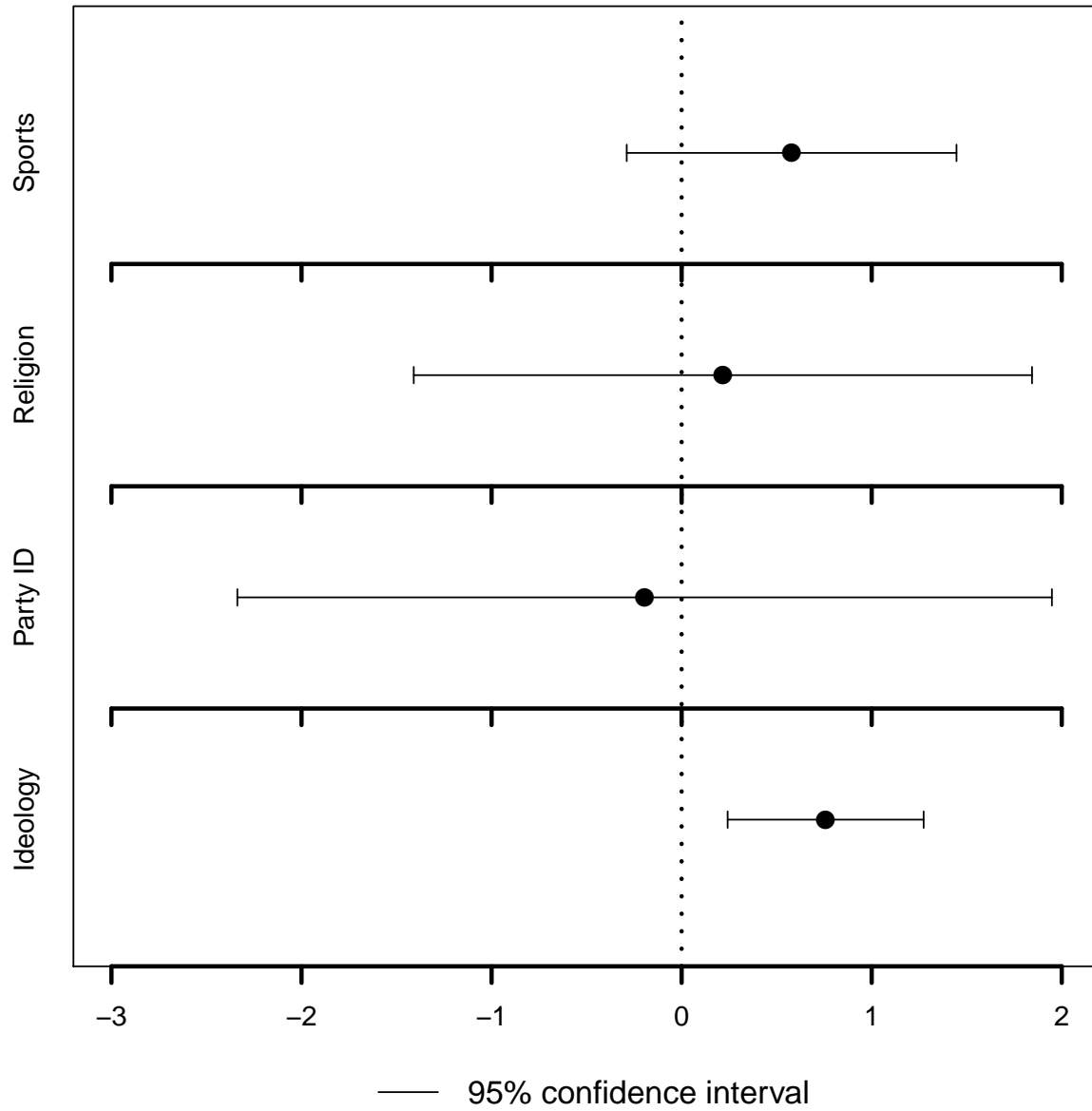
Figure 5.8 shows OLS and negative binomial estimates of identity strength on the use of moral words. It reveals that, as predicted by hypothesis 2, ideology strength is significantly predictive of the use of moral words: as one become one standard error more ideologically extreme, she uses, on average, 0.76 more moral words. Results for the other social identities are inconsistent: negative for party identification, but positive for religion and sports, though in all these cases the estimates are highly uncertain.

### **Hypothesis 3: Differential Judgment of In and Out-Group Members**

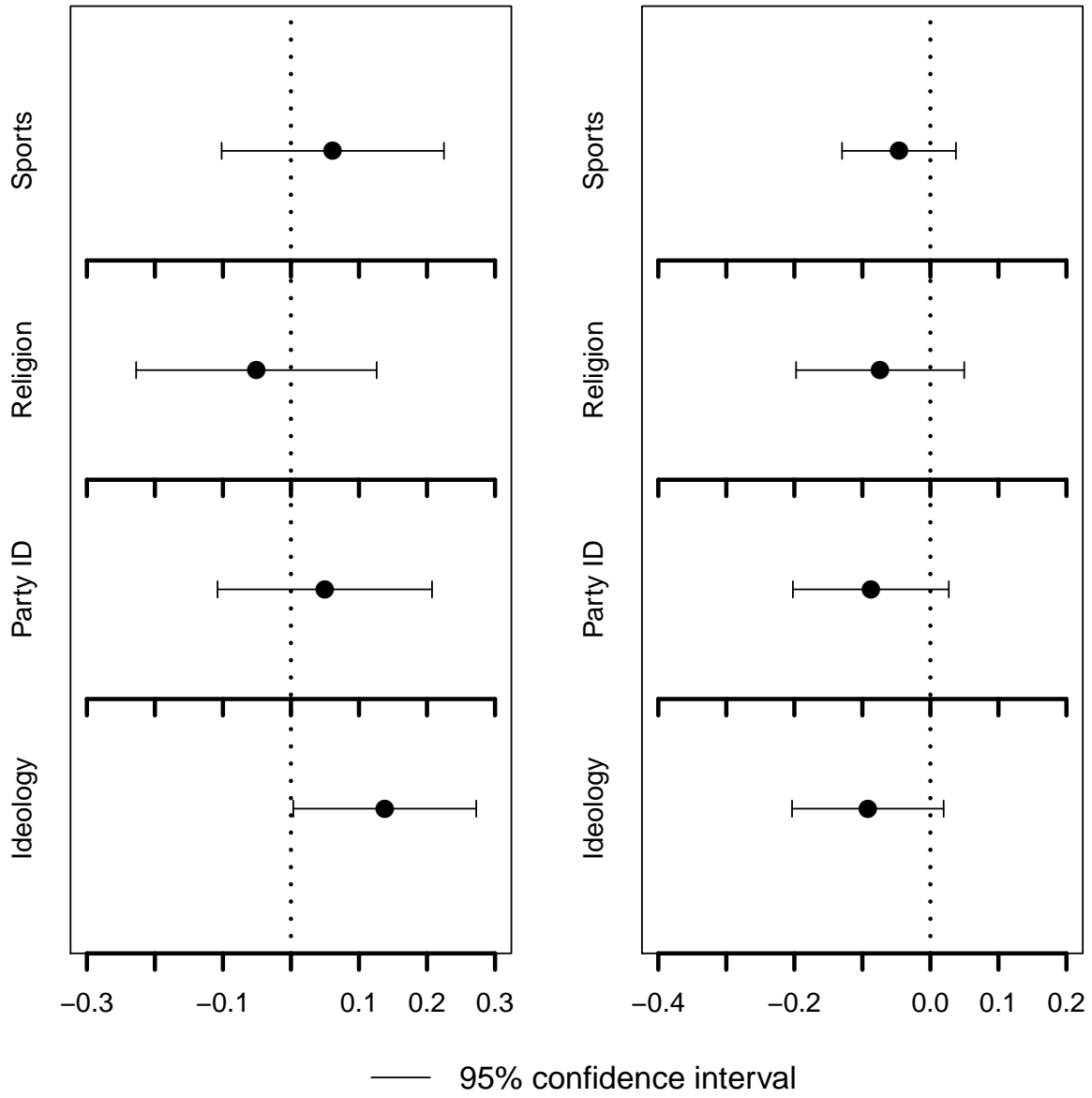
Finally, Figure 5.9 displays the difference on proportions of virtue and vice words between the in and out-groups, as well as their 95% confidence intervals. In accordance with hypothesis 3, participants who received the ideology treatment were 14% more likely to use virtue words to describe individuals who share their identity—a statistically significant result – ; conversely, they were 9% more likely to use vice words when describing those who oppose it—though this result is not significant. Results for the other conditions were not statistically distinguishable from zero.

## **5.5 Conclusion**

In this chapter, I proposed that ideology is an affective social attachment, not unlike religion or sports affiliation. But, contrary to previous work, I used social identity theory to claim that ideological labels assume a polarized dimension. Liberals do see conservatives as the out-group and vice-versa.



**Figure 5.8:** Regression estimates of attachment strength on moral language



**Figure 5.9:** Difference in proportions between in and out-group

I tested this argument with a survey experiment and observational social media data. Ideology is more strongly associated with morality than party identification, race, religion, sexual orientation, and sports preferences. Additionally, the more ideologically extreme one is, the more one is likely to invoke moral judgments when considering ideological labels. Finally, those who identify as liberals and conservatives are more likely to use negative moral words to describe the out-group.

Notwithstanding its robust findings, this study has important limitations: it only tested the association between group attachment and social identities in samples that are not representatives of the American adult population. Furthermore, it used one—valid, but still limited—measurement of group affect: morality. Future work should test if the same effects can be found in a more representative sample and if other affective measures are also more strongly associated with ideological labels than with other social affiliations.

Nonetheless, this dissertation makes two methodological and three substantive contributions. Methodologically, I show a concrete example of how innovative automated text analysis techniques can be used to measure political attitudes. I also introduce a new measurement of group attachment—morality—that I hope can be explored and further validated in future works.

Substantively, I show how “liberal” and “conservative”, contrary to the traditional view (Converse 1964), can be understood as affective-loaded attachments, rather than consistent ideological traditions—and, in contrast to previous research (Conover and Feldman 1981), that these attachments are polarized. Secondly, contrary to the conventional wisdom (Campbell et al. 1960; Green, Palmquist, and Schickler 2002; Iyengar, Sood, and Lelkes 2012; Achen and Bartels 2016; Kinder and Kalmoe 2017), I present robust evidence that, when viewed affectively, ideology can be a powerful political identification that needs to be taken into account more systematically. I hope this work will contribute to our understanding of political behavior in America, by adding ideological labels to party identification as a valid unity of analysis.

This work might also have practical (and perhaps worrisome) consequences for Ameri-

can political life. Recent work is indicative that, when a policy is framed in moral terms, voters are less willing to accept compromise as a valid political outcome (Ryan 2017). Other scholars have suggested that polarization leads to higher levels of gridlock in Congress (McCarty, Poole, and Rosenthal 2006). If affective polarization is associated with moralized attitudes, this does not bode well for political dialogue and compromising policy-making across ideological lines.

## Chapter 6

# Ideological Identification and Policy

## Attitudes

As I have already discussed in chapter 2, much of the literature about ideology in America focuses on the impact issue attitudes have on behavior, analyses of those attitudes as a dependent variable have been rarer. In this chapter, I will invert the equation. As my main concern is with ideological identification, the question I will be asking is: do ideological labels predict attitudes?

I am, of course, unable to claim causality in either direction. It could be the case that identification causes attitudes or, rather, that attitudes are the drivers of ideological affiliation. The hypothesis I am testing is altogether more basic: is ideological identification associated at all with positions on substantive political issues?

The answer provided by most political scientists is that they are not (Claassen, Tucker, and Smith 2015; Conover and Feldman 1981; Ellis and Stimson 2012; Kinder and Kalmoe 2017; Mason 2018a). There are two notable exceptions: Jacoby (1991) finds an association between ideological identification and attitudes on several issues, though he conditions this association

on education and level of political sophistication. Azevedo et al. (2019) also find a positive association between symbolic and five specific measures of operational ideology.

My goal in this chapter is to conduct a broad analysis taking into account many different dimensions of issue positions simultaneously. Measurement error has, again, posed significant challenges to this research agenda. If the data are noisy, then detecting a true correlation becomes harder.

I will address this obstacle by applying the strategy proposed by (Ansolabehere, Rodden, and Snyder 2008) and explained in more detail below. Basically, it entails averaging out answers to many different questions to get at an underlying ideological structure. In so doing, I will provide the first estimate of the association between ideological identification and attitudes. As the results will show, this association exists. It is strong and in the expected direction. Those who identify as “liberal” have, on average, more liberal attitudes than those identifying as “conservative”, with moderates laying somewhere in between—evidence of the issue-based dimension of ideological identification.

## 6.1 Data and Methods

For this analysis, I use the ANES cumulative data file, with surveys from 1972 to 2016.<sup>1</sup> I collected every substantive issue presented to respondents since at least 1990 and until 2016. In the end, I had a list of 33 questions, ranging from cultural matters to foreign policy. The full list can be viewed in appendix D.1.

One possible cause for concern is that several of these questions are measured with different scales, from those with seven options to those with only two. To address this issue, I recoded each variable so that lower values indicate liberal positions and higher values denote conservative views. I then standardized all of them to a normal distribution, where the mean was

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1. The ANES only started asking about respondents’ ideological identification in 1972.



the mid point in each question—i.e., theoretically, the most moderate position—and with standard deviation = 1. Then, following the approach suggested by Ansolabehere, Rodden, and Snyder (2008), I averaged respondents' answer to all 33 questions, thus creating an issue positions index.<sup>2</sup> In this index, negative values indicate liberal positions, on average, while positive values suggest conservative attitudes.

One important question when creating indices such as this is what to do with nonresponses. For the results presented in the main body of the dissertation, I simply ignored them—that is, a respondent got its average position measured regardless of how many questions she answered validly. The results are robust to a version of the index, presented in appendix D.3 that forces a respondent to respond to all 33 questions in order to be classified.<sup>3</sup>

Firstly, I tackled the question of the association between identification and attitudes by simply regressing the issue positions index on the seven-point ideological identification scale. That is, I tested whether or not there is a linear association between these two variables. As someone moves from liberal to conservative in the self-identification scale, do they become more conservative in their political views, as well?

Yet I also wanted to know whether the ideological labels “liberal,” “moderate,” and “conservative” correspond in reality to their meaning in political discourse. Do these three identities predict different issue positions? I thus measured the association between ideological labels and attitudes by first collapsing the seven-point ideological self-placement scale into three categories: “liberal,” “moderate,” and “conservative.” Then, for every year for which the ANES has data, I regressed the issue positions index on these three categories using ordinary least squares

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2. Ansolabehere, Rodden, and Snyder (2008) follow this by a factor analysis, as they are interested in the underlying ideological structure of survey responses. I, however, am interested in correlating these attitudes to the existing structure of ideological identification. This last step is therefore not appropriate to answering the question I address in this chapter.

3. Ansolabehere, Rodden, and Snyder (2008) input answers for missing responses. This makes sense for their goals—to estimate the effect of an issue attitudes on behavior. I do not follow them here for several reasons because doing so would likely impose more structure on the data. That is, it would be assuming an association between existing and missing responses. This could spuriously drive up the correlation with ideological identification. Therefore, my estimates here can be viewed as a conservative test.

While these approaches can give us a broad picture of the association between ideological identification and attitudes, there is the risk that the correlation is spurious—i.e., it may be driven by other factors that are themselves correlated to ideological identification. I made several attempts to minimize this concern.

The standard solution in the discipline is simply to control for variables that may be behind the association of interest. I thus ran again models for individual years, controlling for variables that are strongly correlated to ideological self-placement: partisanship and political knowledge, as assessed by the interviewer.<sup>4</sup> I also controlled for demographic variables, namely age, gender, race, religion, income, and education. All models included state fixed effects as well.

So far, the classes of models that I have discussed examine this association year by year. While this provides a picture of how ideological identification and attitudes correlate over time, another possible empirical strategy is to analyze data in the aggregate, by controlling for year fixed effects. I hence also include those—with and without controls—in my results below.

To further consider the possibility of a spurious correlation, I firstly regressed the issues position index on the controls, without ideological identification. I then regressed the residuals from this model on ideological identification. This strategy greatly reduces issues of multicollinearity, as it tests the correlation between the independent variable—ideological labels, in this case—and whatever variation has not been explained by covariates. I thus am able to detect the association of the variation in ideological identification that is uncorrelated to these controls. Notice that this is a particularly stringent test, because it rules out the possibility that ideological identification may be causally related to the covariates, such as partisanship or political knowledge.

Finally, I employed the Bayesian least absolute shrinkage and selection operator proposed by Ratkovic and Tingley (2017) to estimate the same association. Lasso is a machine

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4. This may sound like a somewhat opaque measure, but previous research (e.g., Freeder, Lenz, and Turney 2019; Goren 2004, 2012; Jacoby 1995; Kinder and Kalmoe 2017) shows that it has remarkable predictive power.

learning algorithm that uses regularization to penalize complex models. It reduces coefficients by the absolute value of the magnitude of each coefficient and is thus adequate for minimizing bias originating from multicollinearity. Ratkovic and Tingley (2017) supplement this basic framework by adding posterior distributions of the coefficients, so as to estimate confidence intervals.

The 95% confidence intervals for all models I present below, with the exception of the lasso estimates, were all computed using survey-consistent standard errors—that is, taking into account respondents' individual weights. The confidence intervals for the lasso estimates, as explained above, are taken from the posterior distribution of the coefficients, as there is no accepted way to compute confidence intervals from a lasso model under the frequentist approach.

## 6.2 Hypotheses

Having presented the data and methods, I can now derive the expectations regarding the association between ideological identification and attitudes:

**H1** : if an association between ideological identification and attitudes exist, we should expect the coefficient between these two variables to be statistically significant. Conversely, if there is no such relationship, the coefficients should be undistinguishable from zero.

**H2** : if ideological labels indeed reflect issue positions, we should expect to observe three different means on the issue positions index for liberals, conservatives and moderates. This would indicate that there are at least three attitudinal modes in the American public—and that those modes are associated with ideological identities. conversely, if there is no pattern to ideological identity and attitudes on issues, we should expect these means to fluctuate unpredictably.

**H3** : Moreover, if these labels really represent ideologies as scholars have traditionally understood them, then the mean of liberals should be significantly lower than the mean for moderates, which, on its turn, should be lower than the mean for conservatives. Notice that this hypothesis is different from H2 because it is possible that we observe that those labels are in fact distinct from each other, but that they are used quite differently from theoretical expectations.

## 6.3 Results

### Association Between Attitudes and the Seven-Point Ideological Identification Scale

I present first, in Figure 6.1, the estimates for the association between the seven-point ideological identification scale and the issue positions index (in red).<sup>5</sup> Again, the coefficients for the association between attitudes and partisanship are also shown (in blue) for comparison. Regardless of the strategy used—whether a univariate regression, whether only party identification is added, or whether a set of controls is included—the coefficients for ideological identification are always significant and substantively large. Indeed they are approximately double the size of the estimates for partisanship. They are also in the expected direction: as one becomes more conservative in their identification, they also become more conservative in their attitudes. Moreover, the coefficients with and without controls do not change much, suggesting that indeed ideological identification has an independent association with substantive political positions.

These results may seem obvious, yet they are a direct challenge for those who argue that Americans have no grasp of ideological consistency—or, as Converse (1964) famously put it, knowledge of what goes with what.

To complement the analysis in Figure 6.1, I also ran various models with year fixed effects. The goal, here, was to address the concern that ideological identification is so strongly correlated with partisanship that its effects may be masked. Additionally, difference in differ-

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5. Tabulated estimates are in tables D.2–D.4, in appendix D.2.



Source: ANES cumulative data file. Only face-to-face interviews included.  
 Survey-consistent robust standard errors used to compute confidence intervals.  
 All models include state fixed effects.

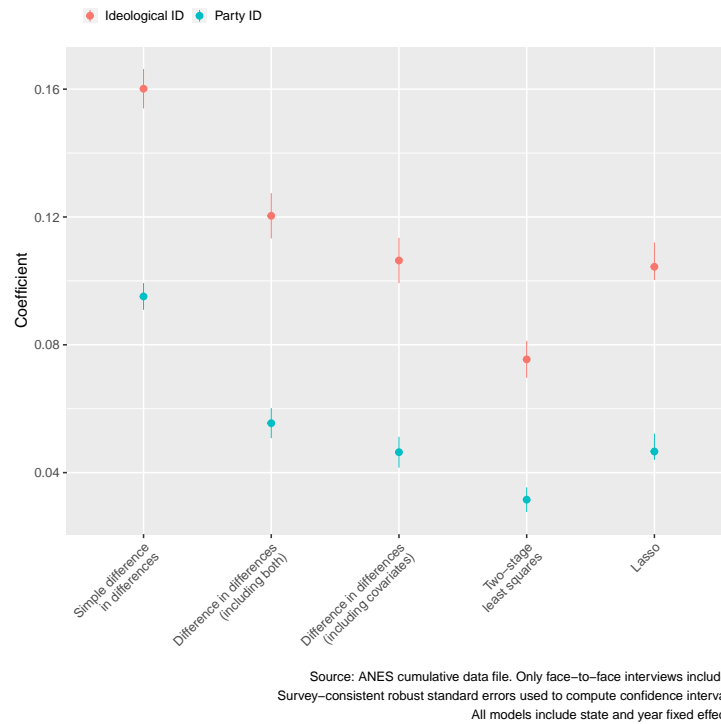
The figure indicates that there is a positive and statistically significant association between ideological identification in the seven-point scale (in red) and average political attitudes. That is, as one becomes more conservative in the scale, one also becomes more likely to hold substantively conservative issue positions. The association with party identification is shown in blue as a basis for comparison. The point estimates for ideological identification are constantly larger than those for party identification. Simple regression models refer to those specifications in which either ideological or party identification are included separately as the solo independent variable, while the model in the middle panel employs both regressors simultaneously. The rightmost panel includes other covariates, such as demographics and political sophistication. All specifications incorporate state fixed effects. Confidence intervals are survey-consistent and robust. See appendices for full results.

**Figure 6.1:** Association between ideological identification and average position on political issues

ences models allow us to filter out particularities of each election cycle that may bias estimates in any given direction. The results are in Figure 6.2.<sup>6</sup> I present estimates for a model without any covariates; one including just partisanship as a control; one with a set of controls; one regress-

6. Also in Table D.5, in appendix D.2.

ing the residuals from all other covariates on ideological identification; and, finally, the lasso estimate.



This figure addresses the problem of multi-collinearity by comparing the association between ideological identification and average attitudes on political issues (coefficients shown in red) across multiple estimators. Regardless of the methodology used, the coefficients are significant and substantively large. The estimates for the association between attitudes and party identification are also shown, in blue, as a baseline. They are smaller than those of ideological identification, regardless of the modeling approach used. Simple difference in differences and two-stage least squares models refer to those specifications in which either ideological or party identification are included separately as the solo independent variable. All models include state and year fixed effects. Confidence intervals are survey-consistent and robust. Full results are in the appendices.

**Figure 6.2:** Comparing the effect of ideological identification on issue attitudes across different methods

Again regardless of the estimation strategy used, the association between ideological identification and attitudes is statistically significant and substantively large. Coefficients are multiple times as large as those for partisanship. And, again, they are in the expected direction. Taken together, the evidence in both figures 6.1 and 6.2 favors H1.

### 6.3.1 Association Between Attitudes and Ideological Labels

As per H2 and H3, I also wanted to know whether labels “liberal,” “moderate,” and “conservative” are predictive of different positions in the ideological spectrum. Figure 6.3 displays the mean issue position for liberals (in red), moderates (in green), and conservatives (in blue) over time, both with and without covariates.<sup>7</sup> There are several conclusions that can be taken from these plots.

Firstly, throughout the period analyzed, the mean for liberals is lower than the mean for moderates, which is lower than the mean for conservatives. Not once do the relative positions of these labels change, providing evidence in favor of H3.

The standard errors are quite large and the confidence intervals often overlap. We are thus unable to always affirm that the average attitude of these three labels are statistically distinguishable. However, it does seem that liberals are further from moderates and conservatives than these two groups are from each other. More importantly, the relative position of liberals, moderates, and conservatives remain unaffected, regardless of whether or not covariates are included.

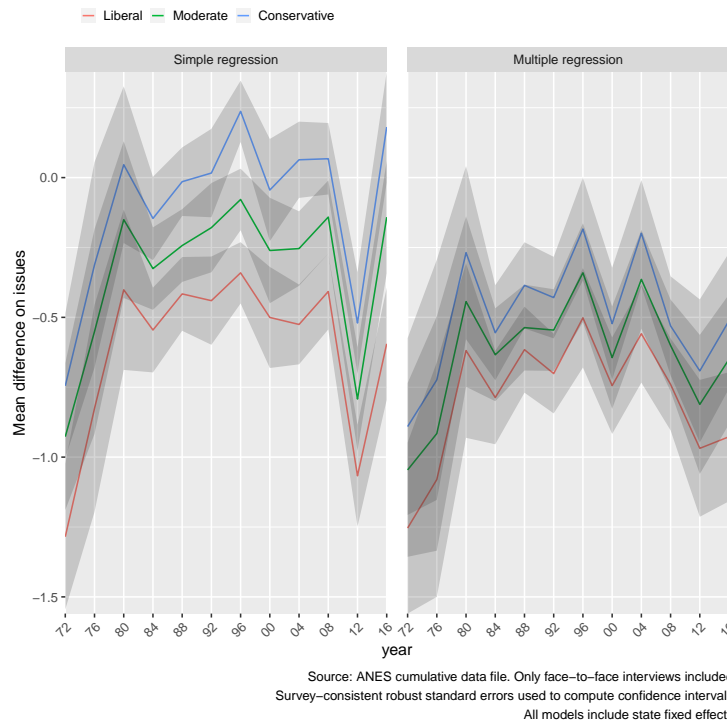
Also worth noticing is the fact that, on average, Americans—including conservatives—tend to hold somewhat liberal attitudes, which seems to confirm the argument introduced by Ellis and Stimson (2012) that most voters are operationally liberal. Nonetheless, liberals are clearly to the left of the other groups.

Finally, Figure 6.3 provides evidence against the claim that Americans are polarized on substantive issues (e.g., Abramowitz and Saunders 2008, 1998). Rather, it seems that the public moves its views together. Though clearly distinct in their mean positions, liberals, conservatives, and moderates move in tandem to the right or to the left according to the election cycle.

Turning next to those models with year fixed effects, Figure 6.4 displays the results for a simple regression of issue positions index on ideology; for a similar model, but including covari-

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7. The full results for these models are in tables D.6–D.7, in appendix D.2.



On the left plot, this figure shows the average position on issues for liberals (red), moderates (green), and conservatives (blue) over time. Negative values indicate more liberal positions, while positive values indicate conservative ones. For all years, the line for liberals is constantly lower than that for moderates, which is, in its turn, lower than that for conservatives, suggesting that these three ideological labels are associated with different positions on substantive issues. The plot on the right replicates these findings including covariates, such as demographics and political sophistication. In fact, the estimates change little. All models include state fixed effects. Confidence intervals are survey-consistent and robust. See appendices for full results.

**Figure 6.3:** Average issue positions for liberals, moderates, and conservatives over time

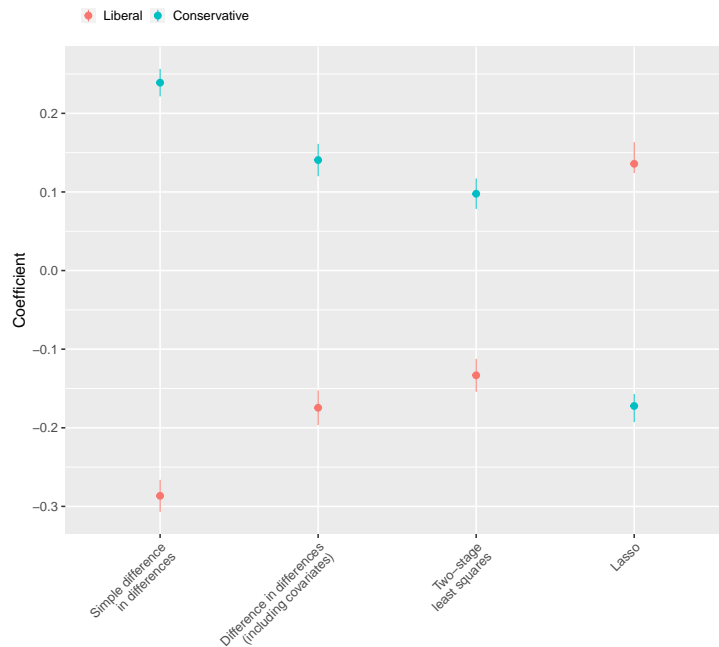
ates; for a model that regressed the residuals of index on controls on ideological identification; and for a lasso regression of the index on ideological identification and controls.<sup>8</sup> In these models, the baseline for ideological identification is “moderate.” Therefore, rather than presenting the mean index value for each ideological category, as in Figure 6.3, Figure 6.4 shows the relative difference of liberals and conservatives when compared to moderates. Naturally, year and state fixed effects are included in all models.

These results provide clear evidence in favor of H2 and H3. Both the estimates for

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8. Full results are in Table D.8, also in appendix D.2.





Source: ANES cumulative data file. Only face-to-face interviews included.  
 Survey-consistent robust standard errors used to compute confidence intervals.  
 All models include state and year fixed effects.

This figure addresses the problem of multi-collinearity by comparing the association between ideological identification and average attitudes on political issues across multiple estimators.

Coefficients indicate estimates for conservatives and liberals, as compared to moderates.

Regardless of the methodology used, the coefficients are significant and substantively large. Simple difference in differences and two-stage least squares models refer to those specifications in which ideological labels are the only independent variables. All models include state and year fixed effects. Confidence intervals are survey-consistent and robust. Full results are in the appendices.

**Figure 6.4:** Comparing the effect of ideological identification on issue attitudes across different methods

liberals and conservatives are statistically distinct from the average for moderates. Moreover: both are in the expected direction, according to H3. These results hold for models with and without controls, and even to the very conservative Two-stage least squares.

My findings indicate that the chasm between issue and identity-based ideology has been exaggerated. The results all point at the same direction: ideological identification has aspects of a social identity (e.g., its stability and affective dimension, as shown in the two previous chapters), but is, simultaneously, associated with substantive attitudes.

So far, I have examined the prevalence of ideological identification, its stability, its affective valency, and its strong association with attitudes. The final step in establishing its political importance is to look at its role on behavior. That is what I will do in the following chapter.

## Chapter 7

# Ideological Identification and the Vote

The association between ideological identification and the vote has long been the topic of scholarship. While some (Jost 2006; Levitin and Miller 1979) have found a meaningful correlation between the two, others (Kinder and Kalmoe 2017; Knight 1985) have argued that the relationship is negligible. My goal in this chapter is both to update these with more recent data and address the concerns regarding multicollinearity outlined in the previous chapter. I will thus apply the same statistical methods presented there, again using the ANES time series.

The results shown here take into account not only presidential vote, but also vote for Congress and governor. The conclusion is that, while indeed the predictive power of ideological identification on vote choice is relatively small, when compared to other political variables— notably partisanship—it nonetheless has an independent correlation with major party presidential, as well as congressional, vote. The effects remain relevant, even in the most restrictive tests. It would thus be a mistake to ignore the role of ideological labels on the vote altogether.

## 7.1 Data and Methods

For this analysis, I will again use the ANES cumulative data file. My dependent variables will be vote choice for president, Congress, and governor. All dependent variables are coded as 0, for a Democratic candidate, and 1, for a Republican one.<sup>1</sup> The independent variable will be the seven-point ideological identification scale. Again I will conduct similar analysis for partisanship as a DV, so as to have a baseline for comparison.

The results I present in this chapter are all obtained with a linear probability model, since those are easier to interpret. Nonetheless, they are all robust to logistic models. Again, I will both run separate models for individual years, as well as analysis on the cumulative data, with year fixed effects.

As in the previous chapter, I will present results for simple—without controls—and multiple regression. The set of covariates is expanded, though, to include presidential approval and retrospective view of the economy. All models included state fixed effects.

To again minimize issues related to multicollinearity, I will run a Two-stage least squares model. That is, I first ran a model of vote on controls and then regressed the residuals from this first analysis on ideological identification. We are thus able to fully isolate the independent effect of ideological labels from other observable variables that may be correlated to them.

Finally, I will again present the results of a lasso regression of vote choice on ideological identification and other covariates. We are interested on how much the coefficients for ideological self-placement are shrunk by an algorithm that penalizes models with many dimensions.

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1. Although analyzing the role of ideological identification on third party candidate would be an interesting endeavor, there are several issues with doing so. Firstly, there is the issue of power. Very few Americans vote for third party candidates, in general, making it difficult to detect significant effects. Additionally, the role of ideology may change from election to election, according to the particular positions of both major and third party candidates. Hypothesizing the role of ideology in such contexts is beyond the scope of this chapter. However, I hope further research will pick up on this line of work.

## 7.2 Hypothesis

I will be testing the following hypothesis in this chapter:

**H1** : If ideological identification is associated with vote choice, we should expect positive coefficients for this variable in the models for major party candidates. That is, as one moves from left to right on the ideological self-placement spectrum, they should become more likely to support the Republican candidate. If, however, no such relationship exists, we should expect those coefficients to be undistinguishable from zero.

## 7.3 Results

Figure 7.1 presents the evolution of the association between ideological identification and vote choice over time for presidential, House, Senatorial, and gubernatorial elections.<sup>2</sup> Again, coefficients for partisanship are shown as a baseline.

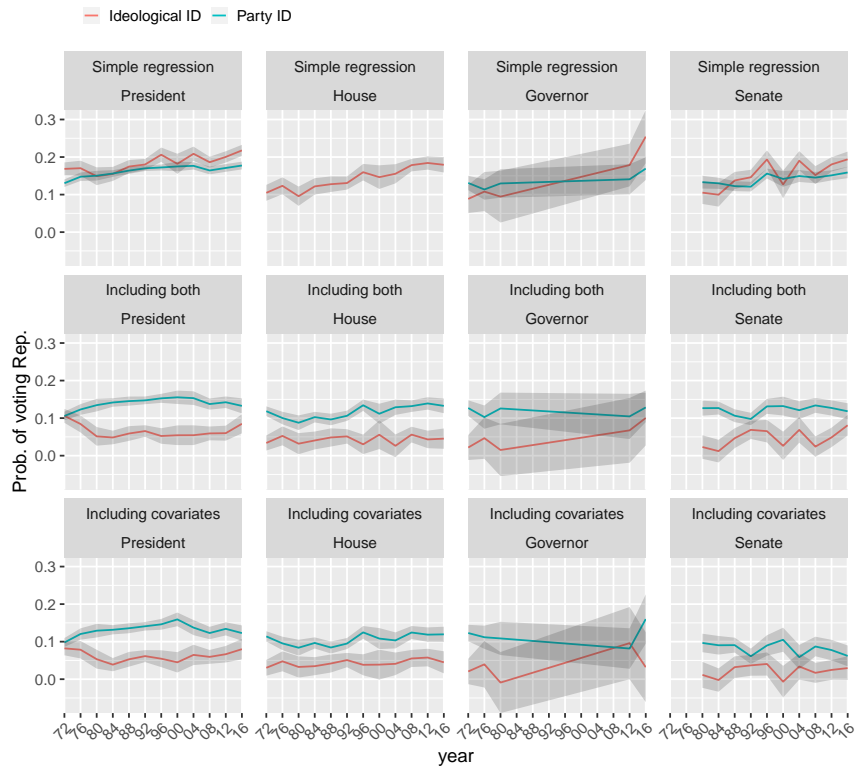
Firstly, it is important to point out that the size of the correlation drops significantly when control variables are included. Moreover, the effect sizes are much larger for partisanship than for ideological identification. Nonetheless, coefficients remain significant for all years when we consider presidential vote. The null hypothesis of no association is also often rejected for House and Senate vote as well.

Effect sizes are not negligible, either. Moving from left to right in the ideological spectrum makes one 6%, on average, more likely to support a Republican presidential candidate—for each point in the liberal-conservative scale. Effect sizes for House and Senate vote are, respectively, 4% and 2%, approximately.

Figure 7.2 presents the results for the analyses conducted on the cumulative data, with

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2. full results are in appendix E.



Source: ANES cumulative data file. Only face-to-face interviews included.  
 Survey-consistent robust standard errors used to compute confidence intervals.  
 All models include state fixed effects.

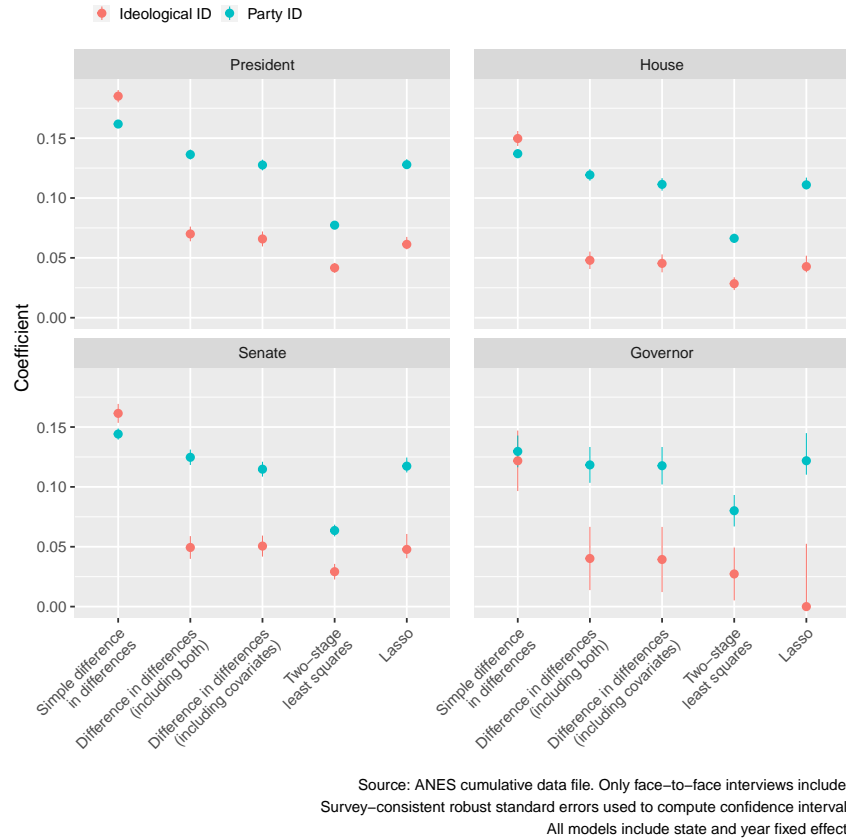
The figure indicates that there is a positive and statistically significant association between ideological identification in the seven-point scale (in red) and major party presidential vote choice. The association is positive and often significant for House and Senate vote as well. That is, as one becomes more conservative in the scale, they also become more likely to vote for a Republican candidate. The association with party identification is shown in blue as a basis for comparison. The point estimates for ideological identification are constantly smaller than for those of party identification. Simple regression models refer to those specifications in which either ideological or party identification are included separately as the solo independent variable, while the models in the middle row employ both regressors simultaneously. The rightmost panels include other covariates, such as demographics and political sophistication. All specifications incorporate state fixed effects. Confidence intervals are survey-consistent and robust. See appendices for full results.

**Figure 7.1:** Association between ideological identification and vote choice for president, House, Senate, and governor

year fixed effects.<sup>3</sup> They largely confirm the findings from Figure 7.1: there is a significant positive association between ideological identification and voting for major party presidential,

3. Full results are also in appendix E.

House and Senate candidates. No effect was detected for gubernatorial vote under the more stringent model specifications.



This figure addresses the problem of multi-collinearity by comparing the association between ideological identification and vote choice for president, House, Senate and governor (coefficients shown in red) across multiple estimators. Regardless of the methodology used, the coefficients are significant and substantively large for presidential, House, and Senate vote.

Results for gubernatorial vote fail significance tests under the more stringent model specifications. The estimates for the association between the vote and party identification are also shown, in blue, as a baseline. They are larger than those of ideological identification, regardless of the modeling approach used. Simple difference in differences and two-stage least squares models refer to those specifications in which either ideological or party identification are included separately as the solo independent variable. All models include state and year fixed effects. Confidence intervals are survey-consistent and robust. Full results are in the appendices.

**Figure 7.2:** Comparing the effect of ideological identification on vote choice across different methods

What is more: these results hold even for the most conservative test; the two-stage least

squares. In that case, effect sizes are approximately 4% for presidential vote choice and 3% for the House and Senate. And those refer to each point in the liberal-conservative scale.

The evidence presented here is, therefore, consistent with H1. The conclusion is clear: ideological identification cannot be ignored when it comes to the vote, perhaps the most important political outcome of all.



## Chapter 8

# Conclusion

My goal in this dissertation was to answer a simple question that has nonetheless long been debated by political scientists: does voters' identification with a political label matter? Using experiments, social media posts, and a range of public opinion data—from time series to panel surveys—I have shown that the answer is a resounding “yes.”

Chapter 3 shows that ideological identification is prevalent in the United States. Approximately 94% of voters identify themselves as “liberal,” “moderate,” or “conservative.” In chapter 4, I go beyond previous studies of ideology in America to provide the first estimates of the stability of ideological identification in the United States. I show that it is exceedingly stable over time, indicating how much voters value these identities.

In chapter 5, I provide evidence that ideological identification is an affectively loaded, polarized social attachment. In fact, ideological animosity seems to be higher than dislike across other group identities. This is in direct contradiction to previous theories of ideological attachment (Conover and Feldman 1981; Iyengar, Sood, and Lelkes 2012; Kinder and Kalmoe 2017).

Chapter 6 addresses the supposed dichotomy between issue attitudes and ideological identification. I argue and show that the distinction often made in the literature between sym-

bolic and operational ideology has been exaggerated. Although undoubtedly there are conflicted conservatives and liberals, as pointed out by (Ellis and Stimson 2012) and (Claassen, Tucker, and Smith 2015), ideological identification is strongly predictive of attitudes. Moreover, voters by and large seem to be using the labels “liberal,” “moderate,” and “conservative” much in the same way as academics understand these terms Barber and Pope 2019; Converse 1964; Downs 1957; Fowler et al. 2020; Freeder, Lenz, and Turney 2019. In the aggregate, liberals are invariably to the left of moderates, who are to the left of conservatives, on political issues.

Regarding the debate on the effect of ideology on behavior, I, in chapter 7, employ a variety of estimators to measure the relationship between ideological identification and vote choice. I find that ideological identification is significantly associated with vote for major party presidential, House, and Senate candidates, independently of other covariates, such as partisanship. Interestingly, other scholars (Kalmoe 2020; Kinder and Kalmoe 2017; Knight 1985) have come to a very different conclusion from mine with similar data and results. They argue that the effect of ideology on behavior is marginal, when compared to that of partisanship. This may be a “is the glass half-empty or half-full?” debate, in which it is impossible to reach definitive agreement. Yet, ideology significantly predicts vote choice, as much as a 42

A major limitation of this work, naturally, stems from the fact that establishing causality in public opinion research is exceedingly difficult, if not outright impossible. Researchers cannot randomize voters into ideological identities and then observe how that affects their attitudes or behavior. Nonetheless, while making no claims about causality, I have made efforts to address possible confounders. The results presented here are robust to stringent quantitative tests of observational data that have been used to make similar claims about partisanship.

This is a rich area of inquiry and I hope other students of political behavior will expand the findings presented here in many different areas. One possible extension would be to examine the effect of ideological identification on vote for third party candidates. Additionally, the null results regarding vote for governor is suggestive that ideology may be less important in state and

local elections, a hypothesis worth exploring. Finally, some of my results seem to point at an increasing importance of ideological identification in vote choice and affect over time, a possibly relevant finding for the debate surrounding voter polarization in America. I, nonetheless, leave this possibility to be examined in future work.

Ideological identification is a central variable in democratic theory. If voters do not know where to place themselves in the political arena, how are they supposed to choose someone to represent their preferences and values? The findings in this dissertation offer a correction to how a large chunk of the discipline thinks about ideology. It is more substantive and predictive of behavior than it has often received credit for. In contrast to some of the most influential works in the whole of political science, the portrait I paint here of the American voter is not one of blindly partisan, politically naive individuals. Rather, it seems that most of the public is quite comfortable using ideological language, that it does know what goes with what, and that ideological identification drives its behavior in no small extent.

More importantly, the results should also bring a measure of optimism for those concerned with the ability of democracies to elect governments representative of voters' preferences. If the public is able to identify with the ideological label that best predict its attitudes, and if it votes according to those same labels, then ideology plays the role assigned to it by those first theorists of democracy.

# Appendix A

## Supplemental Materials for chapter 3

### A.1 Proportion of ANES Respondents Identifying with an Ideological Label

**Table A.1:** Proportion of ANES respondents to the ideological identification questions

	Seven-point ideological ID	Three-point ideological ID		
	Liberal, moderate, or conservative	Liberal or conservative only	Liberal, moderate, or conservative	Liberal or conservative only
1972	0.72 (0.7;0.74)	0.45 (0.43;0.47)		
1974	0.73 (0.71;0.76)	0.47 (0.44;0.5)		

*continues on next page*

**Table A.1:** Proportion of ANES respondents to the ideological identification questions (*continued*)

	Seven-point ideological ID	Three-point ideological ID		
	Liberal, moderate, or conservative	Liberal or conservative only	Liberal, moderate, or conservative	Liberal or conservative only
1976	0.67 (0.65;0.69)	0.42 (0.4;0.44)		
1978	0.73 (0.71;0.75)	0.46 (0.44;0.49)		
1980	0.64 (0.62;0.66)	0.45 (0.42;0.47)		
1982	0.64 (0.62;0.67)	0.42 (0.39;0.44)		
1984	0.7 (0.68;0.72)	0.46 (0.44;0.49)	0.89 (0.87;0.9)	0.62 (0.6;0.64)
1986	0.75 (0.73;0.77)	0.47 (0.45;0.5)	0.91 (0.9;0.92)	0.6 (0.58;0.62)
1988	0.7 (0.68;0.72)	0.48 (0.46;0.5)	0.89 (0.88;0.9)	0.81 (0.79;0.83)
1990	0.67 (0.65;0.69)	0.43 (0.4;0.45)	0.89 (0.87;0.9)	0.59 (0.57;0.61)
1992	0.73	0.5	0.92	0.85

*continues on next page*

**Table A.1:** Proportion of ANES respondents to the ideological identification questions (*continued*)

	Seven-point ideological ID	Three-point ideological ID		
	Liberal, moderate, or conservative	Liberal or conservative only	Liberal, moderate, or conservative	Liberal or conservative only
	(0.72;0.75)	(0.48;0.52)	(0.91;0.93)	(0.84;0.86)
1994	0.76	0.5	0.95	0.66
	(0.74;0.78)	(0.48;0.53)	(0.93;0.96)	(0.63;0.68)
1996	0.75	0.51	0.95	0.86
	(0.72;0.77)	(0.48;0.53)	(0.94;0.96)	(0.84;0.88)
1998	0.77	0.49	0.95	0.7
	(0.74;0.8)	(0.46;0.52)	(0.93;0.96)	(0.67;0.73)
2000	0.73	0.5	0.92	0.86
	(0.69;0.76)	(0.46;0.54)	(0.9;0.94)	(0.83;0.89)
2002	0.78	0.56	0.98	0.96
	(0.76;0.81)	(0.53;0.59)	(0.96;0.98)	(0.95;0.97)
2004	0.75	0.5	0.94	0.88
	(0.72;0.78)	(0.47;0.53)	(0.92;0.95)	(0.86;0.9)
2008	0.75	0.53	0.96	0.69
	(0.73;0.77)	(0.51;0.56)	(0.95;0.97)	(0.67;0.72)
2012	0.77	0.53	0.93	0.69
	(0.75;0.79)	(0.5;0.56)	(0.92;0.95)	(0.66;0.71)

*continues on next page*

**Table A.1:** Proportion of ANES respondents to the ideological identification questions (*continued*)

	Seven-point ideological ID	Three-point ideological ID	Seven-point ideological ID	Three-point ideological ID
	Liberal, moderate, or conservative	Liberal or conser- vative only	Liberal, moderate, or conservative	Liberal or conser- vative only
2016	0.79 (0.75;0.82)	0.58 (0.54;0.61)	0.96 (0.95;0.98)	0.86 (0.83;0.89)

Survey-consistent robust 95% confidence intervals shown in parentheses.

## Appendix B

### Supplemental Materials for chapter 4

#### B.1 Sample Summary for Panel Surveys

Table B.1: Summary of Survey Panels

Panel	# of waves	First wave	Last wave	N
ANES 1972-4	3	Fall 1972	Fall 1976	753
ANES 1980 major panel	3	Winter/spring 1980	Fall 1980	393
ANES 1990-2	3	Fall 1990	Fall 1992	512
ANES 1992-7	4	Fall 1992	Fall 1997	94
GSS 2006-10	3	2006	2010	1,143
GSS 2008-12	3	2008	2012	1,122
NAES 2008	5	October 2007	January 2009	10,166
GSS 2010-4	3	2010	2014	1,140
CCES 2010-4	3	Fall 2010	Fall 2014	8,945
TAPS	6	December 2011	February 2016	555



## B.2 Full Regression Results for the Estimation of the Stability of Ideological and Party ID

**Table B.2:** First differences model for the stability of ideological and party ID

	Ideological ID	Party ID
ANES 1972-6	0.12 (-0.1;0.34)	0.18 (-0.18;0.53)
ANES 1980 major panel	-0.13 (-0.33;0.06)	-0.16 (-0.46;0.15)
ANES 1990-2	-0.05 (-0.32;0.22)	0.12 (-0.46;0.7)
ANES 1992-7	-0.14 (-0.38;0.09)	0.21 (-0.31;0.72)
GSS 2006-10	0.04 (-0.18;0.26)	0.59 (0.02;1.16)
GSS 2008-12	0.11 (-0.12;0.34)	-0.01 (-0.17;0.16)
NAES 2008 panel	-0.36 (-0.39;-0.33)	-0.27 (-0.32;-0.22)
GSS 2010-4	0.29 (-0.05;0.63)	0.41 (0;0.83)
CCES 2010-4	0.35	1.13

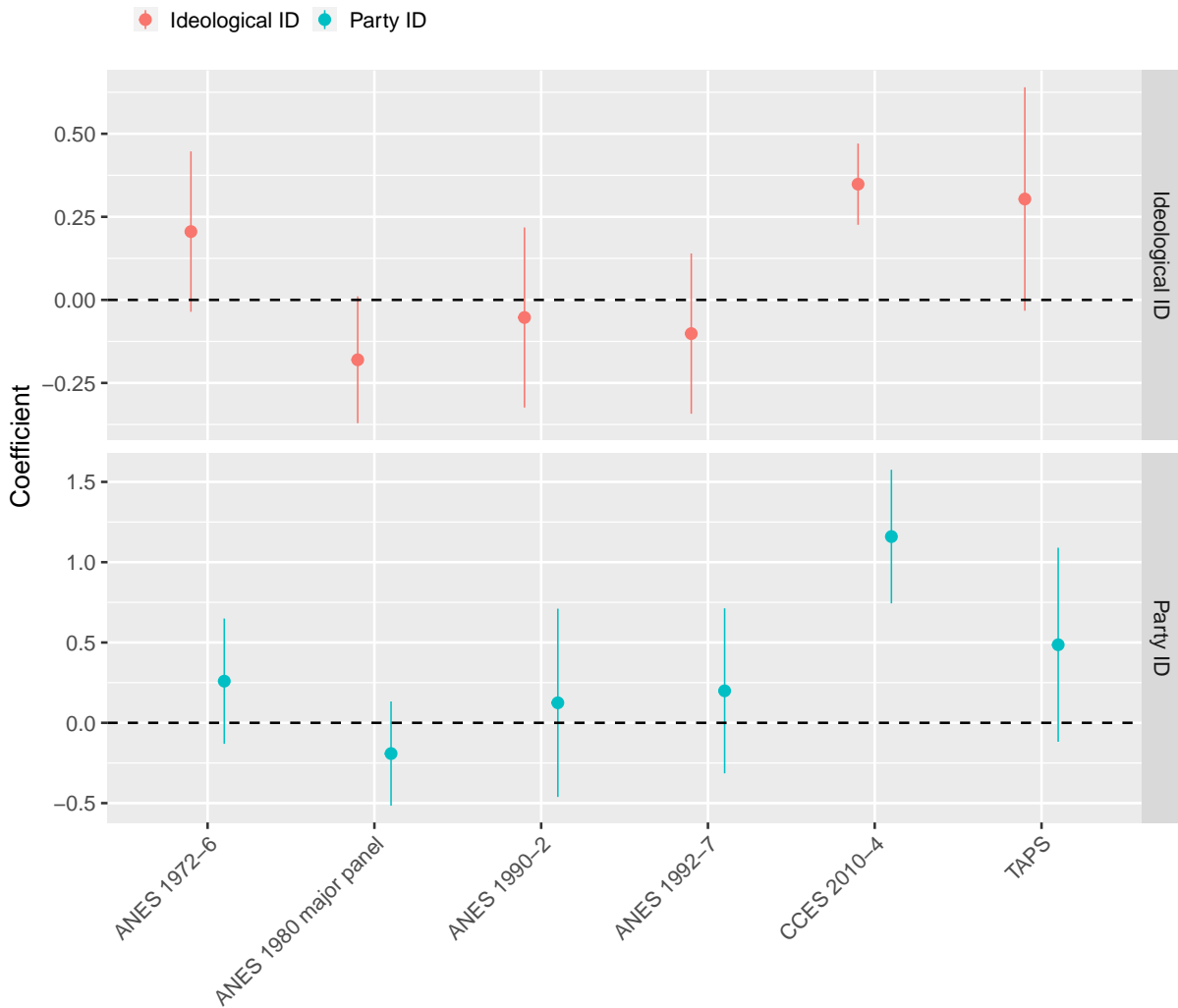
*continues on next page*

**Table B.2:** First differences model for the stability of ideological and party ID (*continued*)

	Ideological ID	Party ID
	(0.23;0.47)	(0.73;1.54)
TAPS	-0.09	0.3
	(-0.28;0.1)	(-0.28;0.87)

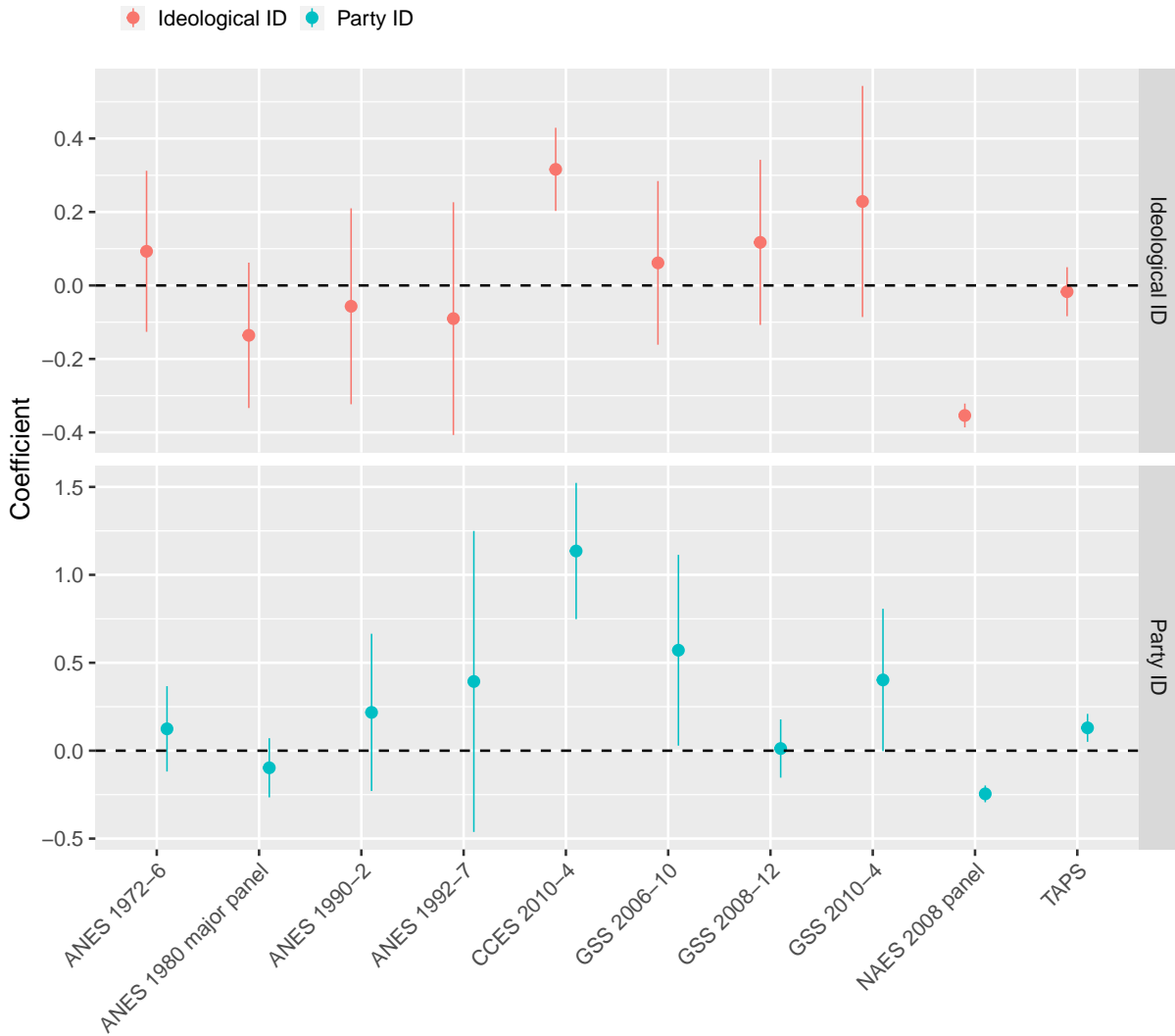
Survey-consistent robust 95% confidence intervals shown  
in parentheses.

### B.3 Alternative Estimation Strategies for the Stability of Ideological and Party ID



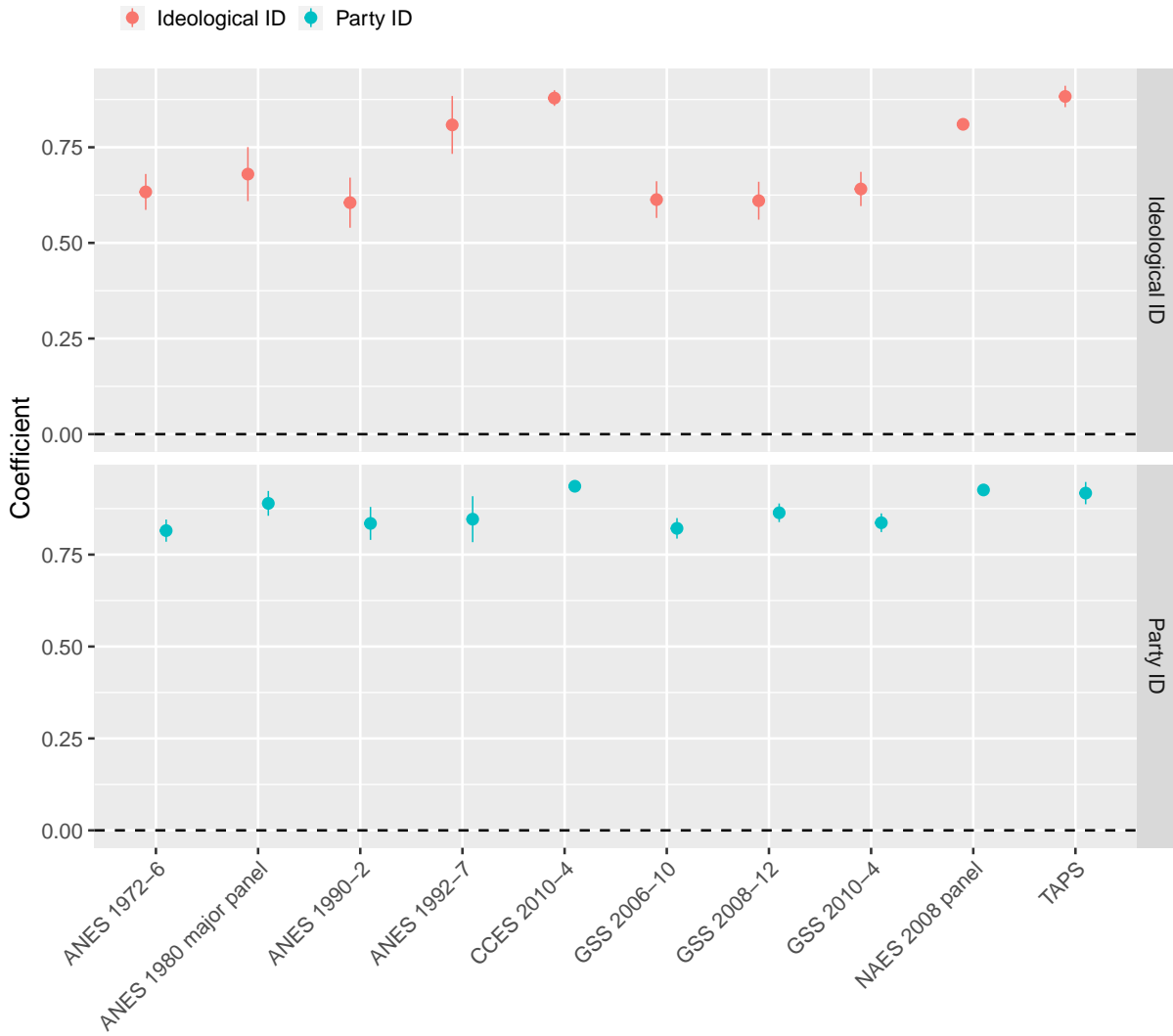
Source: ANES 1972-6 panel, ANES 1980 major panel, ANES 1990-2 panel, ANES 1992-7 panel, GSS 2006 panel, GSS 2008 panel, GSS 2010 panel, and CCES 2010-4 panel. Only respondents who gave valid answers to both the ideological self-placement and party identification questions in all waves were included. Survey-consistent robust standard errors used to compute confidence intervals.

**Figure B.1:** Estimates for the stability of partisanship and ideological identification across ten panels, controlling for presidential approval



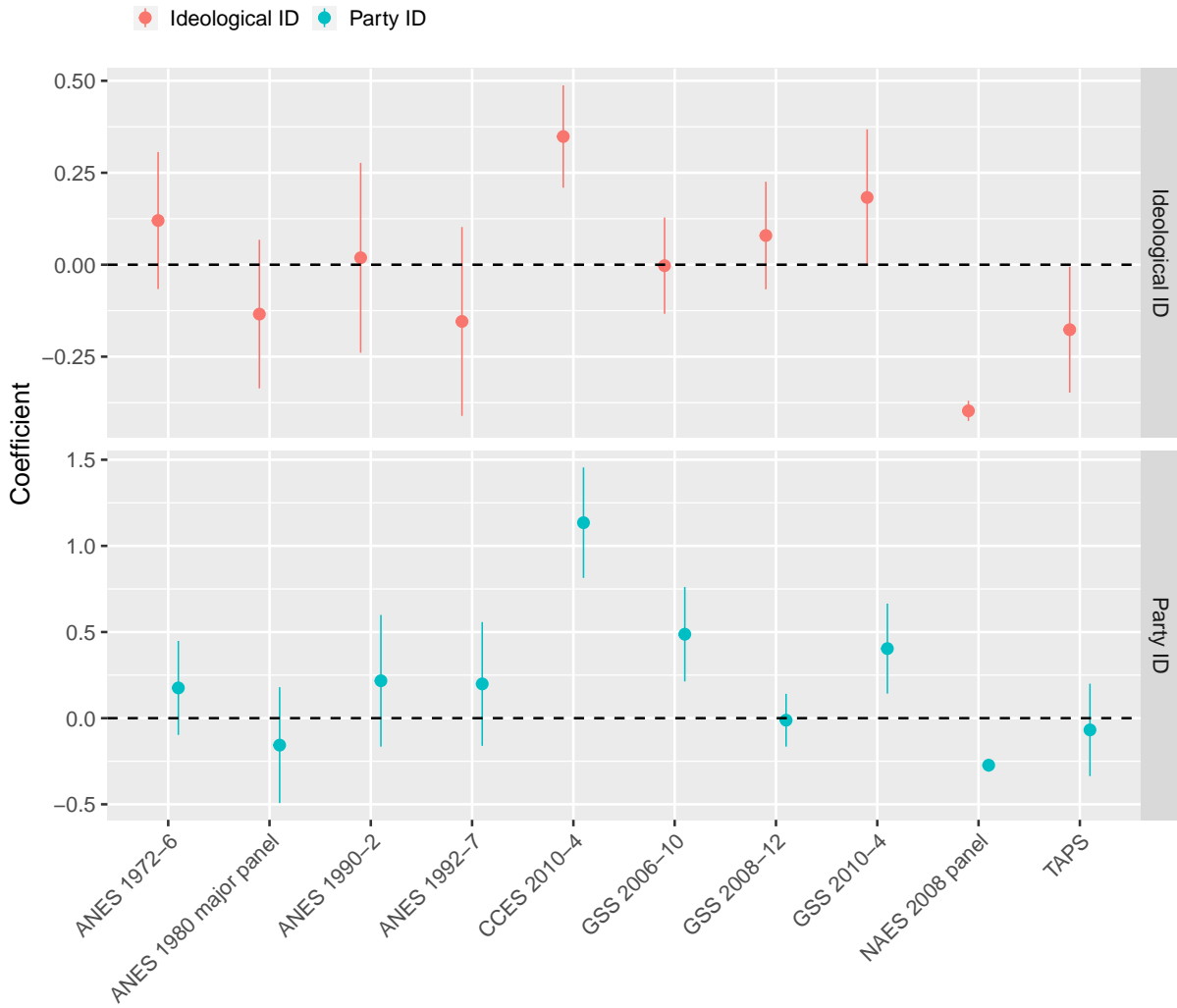
Source: ANES 1972-6 panel, ANES 1980 major panel, ANES 1990-2 panel, ANES 1992-7 panel, GSS 2006 panel, GSS 2008 panel, GSS 2010 panel, and CCES 2010-4 panel. Identification questions in all waves were included. Survey-consistent robust standard errors used to compute confidence intervals.

**Figure B.2:** Estimates for the stability of partisanship and ideological identification across ten panels, including all observations



Source: ANES 1972-6 panel, ANES 1980 major panel, ANES 1990-2 panel, ANES 1992-7 panel, GSS 2006 panel, GSS 2008 panel, GSS 2010 panel, and CCES 2010-4 panel. Identification questions in all waves were included. Survey-consistent robust standard errors used to compute confidence intervals.

**Figure B.3:** Measurement model estimates for the stability of partisanship and ideological identification across ten panels



Source: ANES 1972-6 panel, ANES 1980 major panel, ANES 1990-2 panel, ANES 1992-7 panel, GSS 2006-10 panel, GSS 2008-12 panel, NAES 2008 panel, GSS 2010-4 panel, CCES 2010-4 panel, and TAPS. Only respondents who gave valid answers to both the ideological self-placement and party identification questions in all waves were included.

**Figure B.4:** GMM estimates for the stability of partisanship and ideological identification across ten panels

## Appendix C

### Supplemental Materials for chapter 5

#### C.1 ANES Affective Polarization Data

**Table C.1:** Affective polarization for ideological and party ID

	Ideological ID	Party ID
1980	27.11 (24.7; 29.53)	24.98 (23.49; 26.47)
1982	27.35 (24.84; 29.86)	29.56 (28.03; 31.09)
1984	20.36 (18.55; 22.16)	28.4 (27.07; 29.73)
1986	24.93 (23; 26.86)	27.75 (26.44; 29.06)

*continues on next page*

**Table C.1:** Affective polarization for ideological and party ID (*continued*)

---

	Ideological ID	Party ID
1988	21.96 (19.85; 24.06)	30.12 (28.71; 31.52)
1990	23.89 (21.77; 26.01)	24 (22.71; 25.3)
1992	23.75 (22.01; 25.48)	27.81 (26.63; 28.99)
1994	30.52 (28.24; 32.81)	27.42 (25.94; 28.91)
1996	26.84 (24.8; 28.88)	30.24 (28.57; 31.92)
1998	25.72 (23.28; 28.16)	29.11 (27.27; 30.95)
2000	21.95 (18.65; 25.25)	30.38 (28.03; 32.73)
2004	27.28 (24.58; 29.98)	33.64 (31.62; 35.66)
2008	25.13 (23.05; 27.21)	35.6 (33.95; 37.25)
2012	29.93 (27.34; 32.52)	36.66 (34.8; 38.52)

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*continues on next page*

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**Table C.1:** Affective polarization for ideological and party ID (*continued*)

---

	Ideological ID	Party ID
2016	34.53 (31.48;37.57)	34.35 (31.89;36.81)

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Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

## C.2 Twitter Study

### C.2.1 Distributions of Moral Words

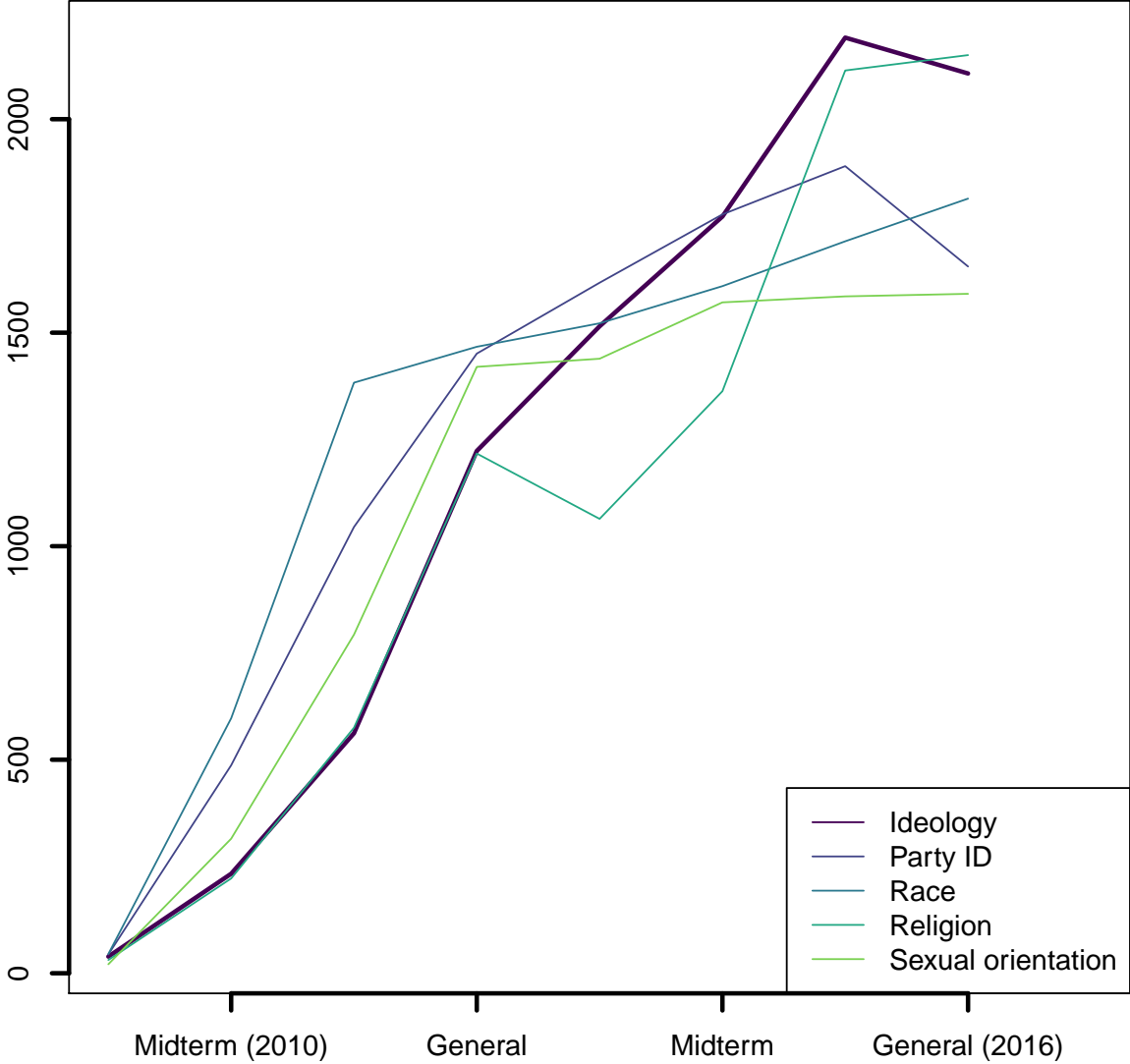
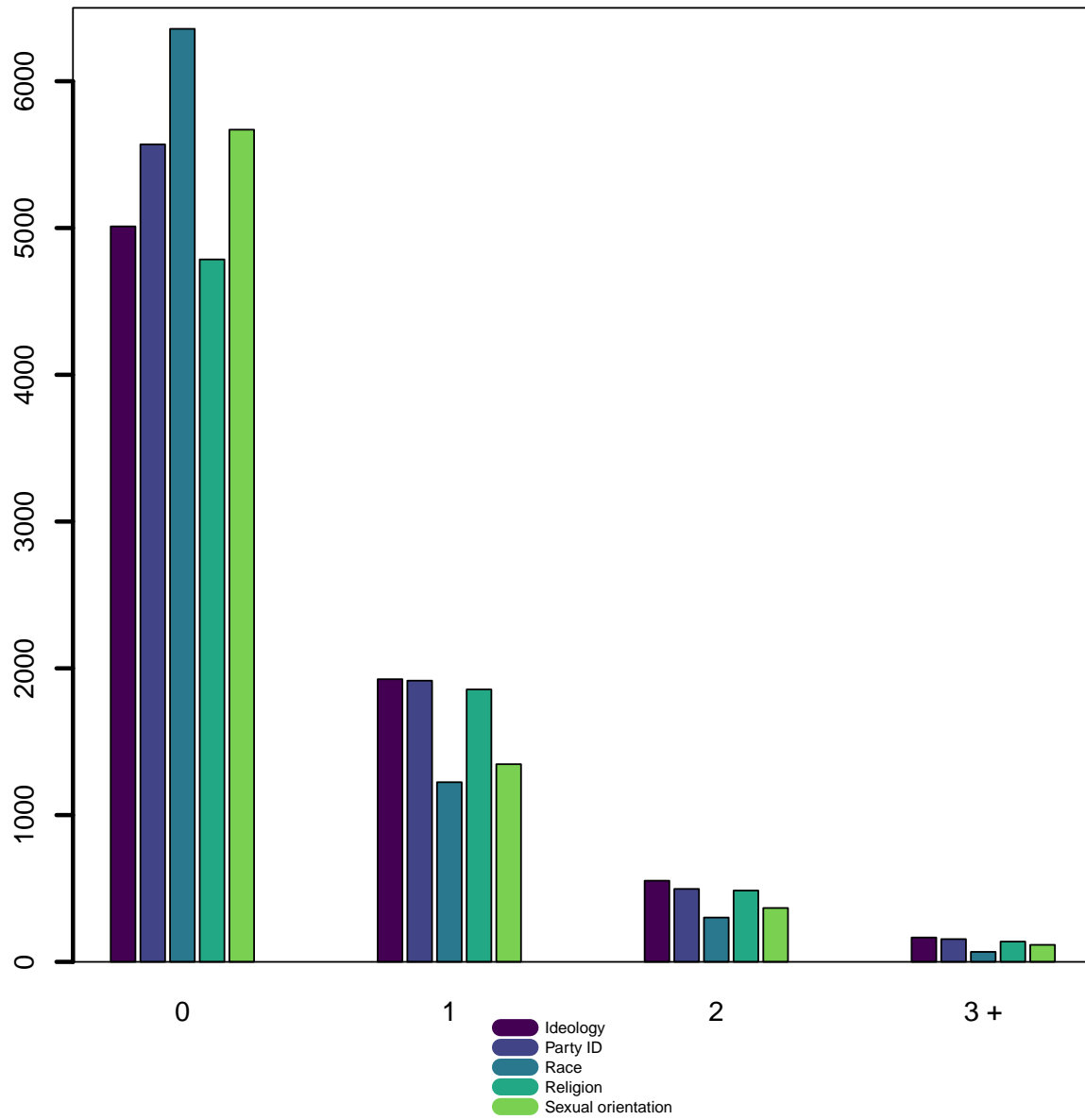
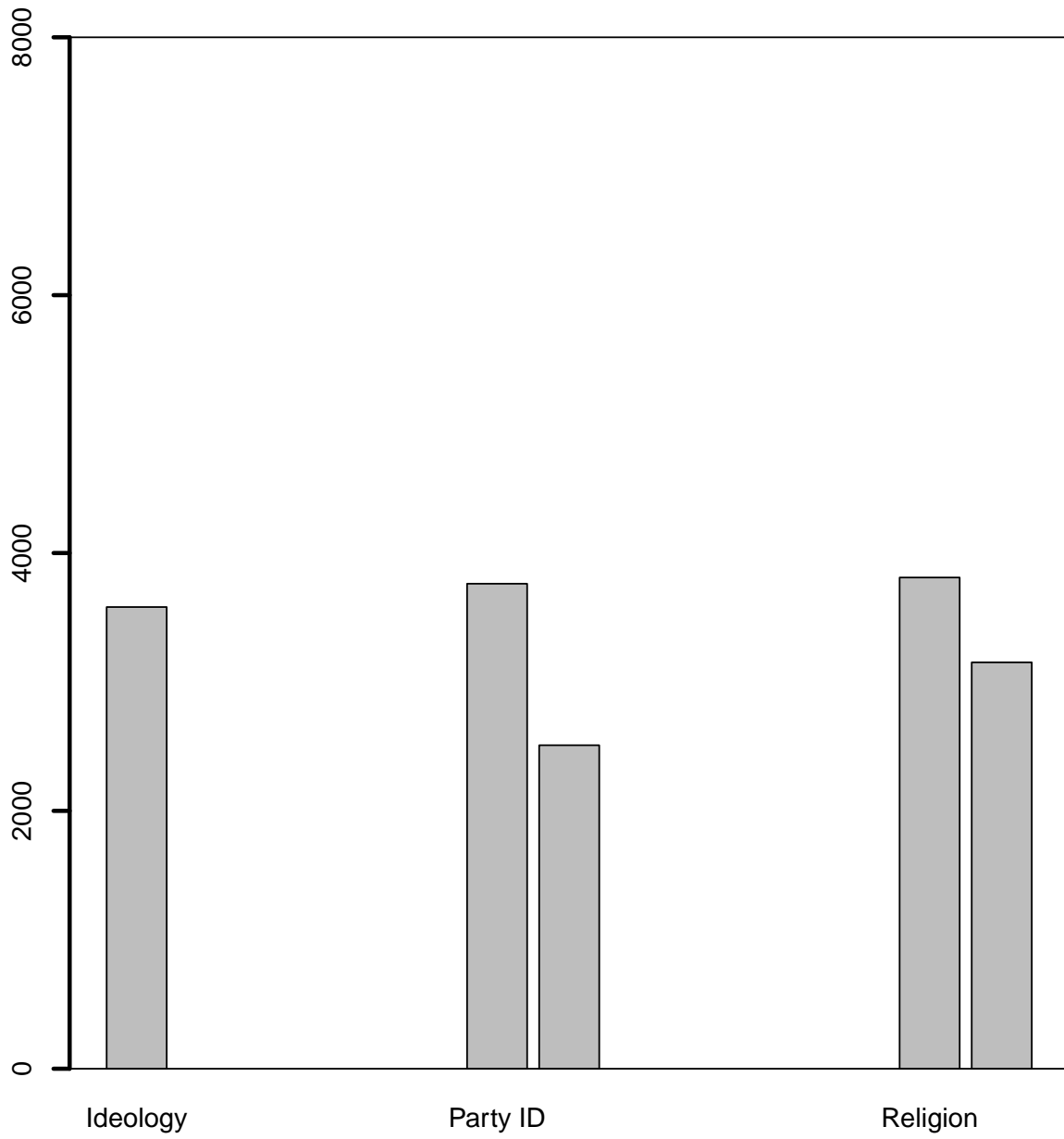


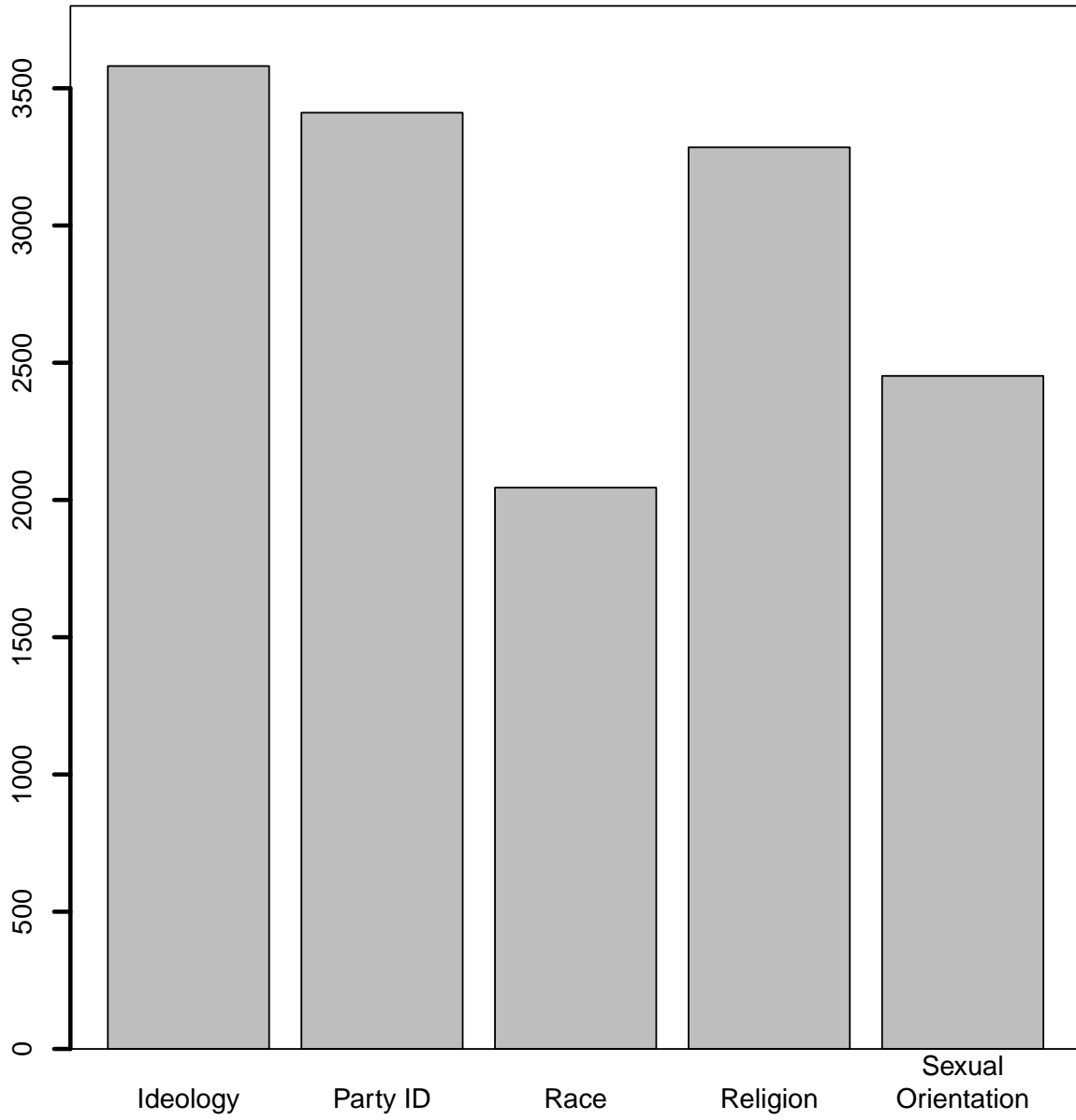
Figure C.1: Tweets Overtime



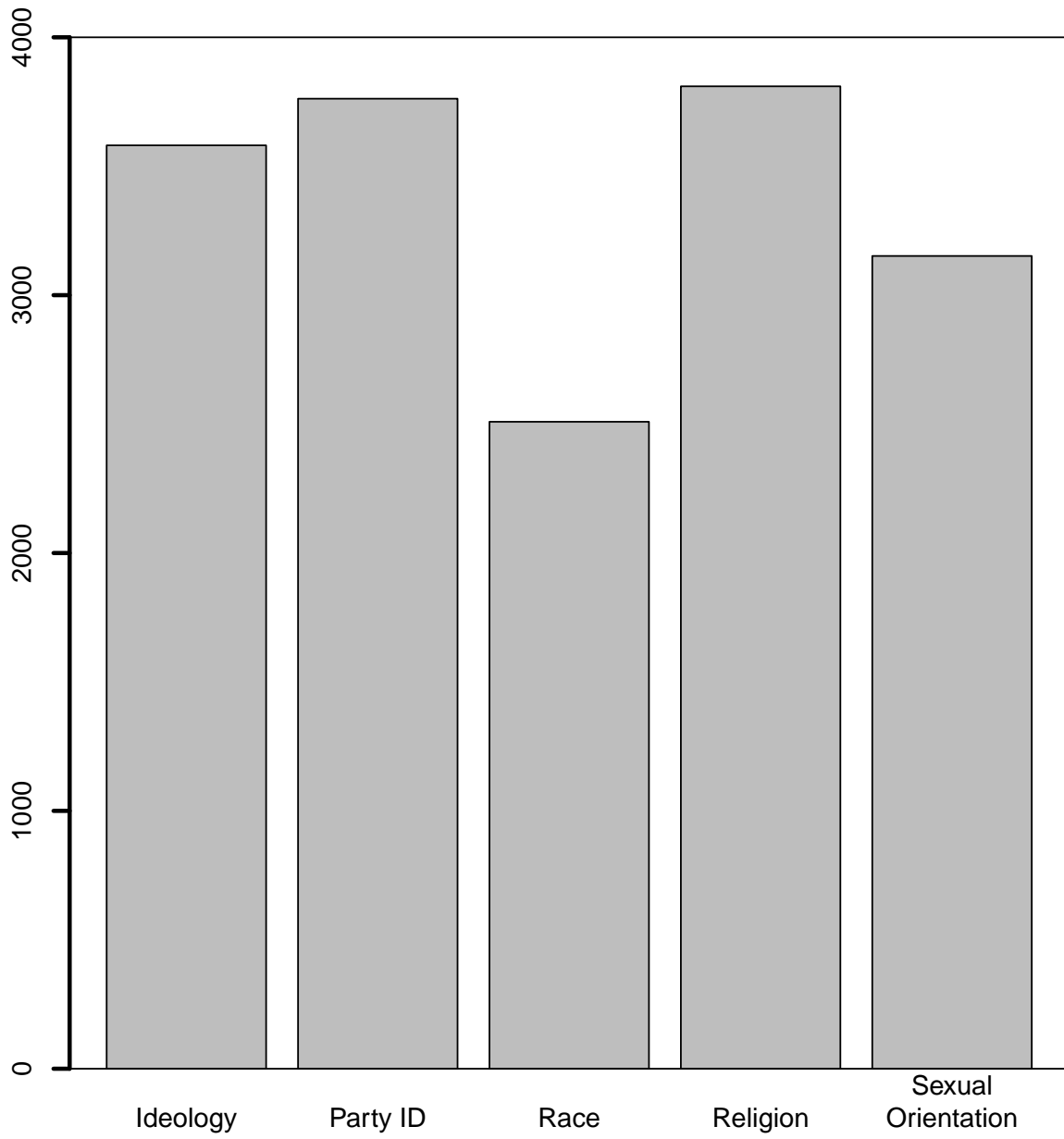
**Figure C.2:** Distribution of moral words per social identity (restricted sample)



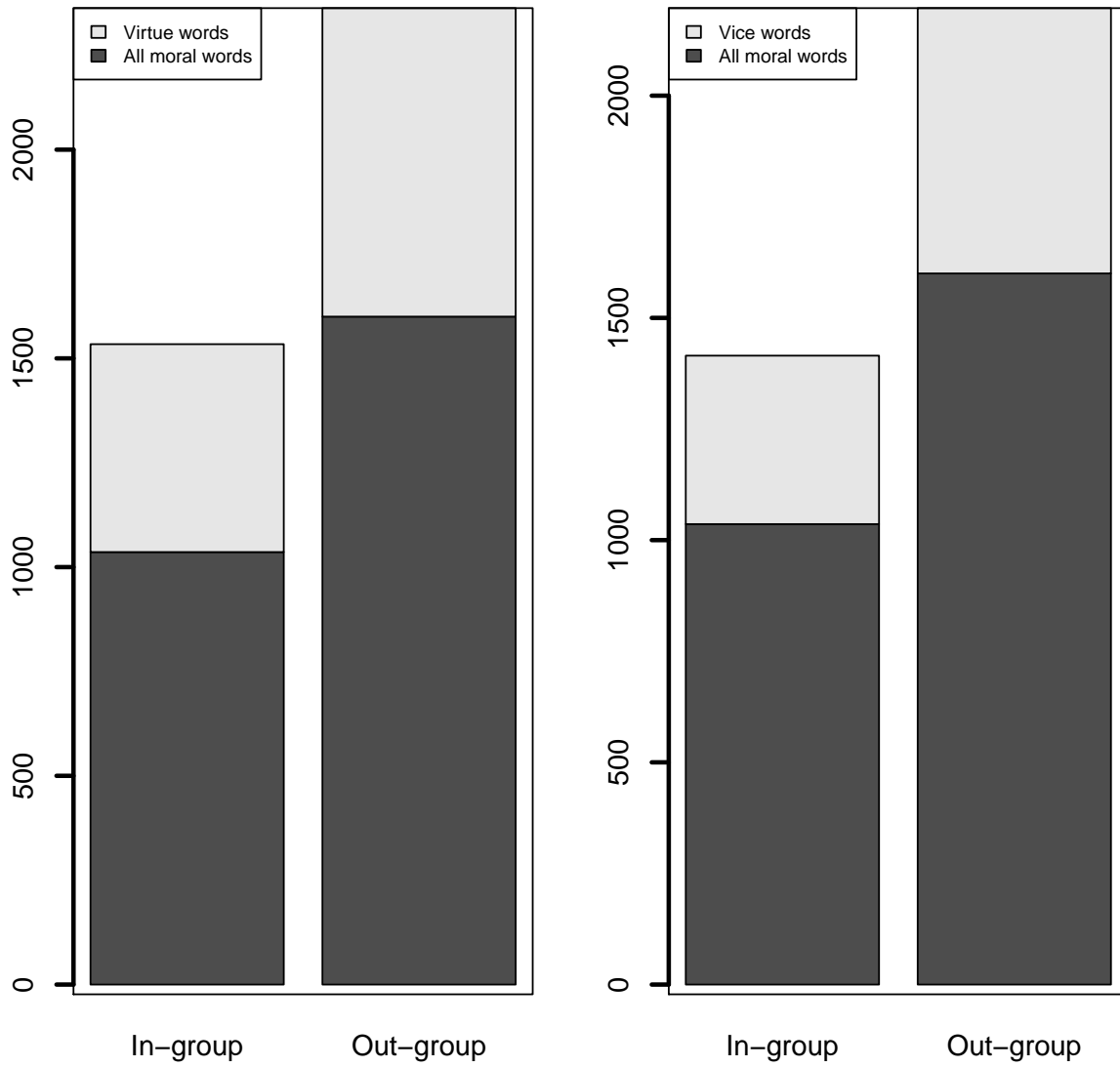
**Figure C.3:** Distribution of moral words per social identity (unrestricted sample)



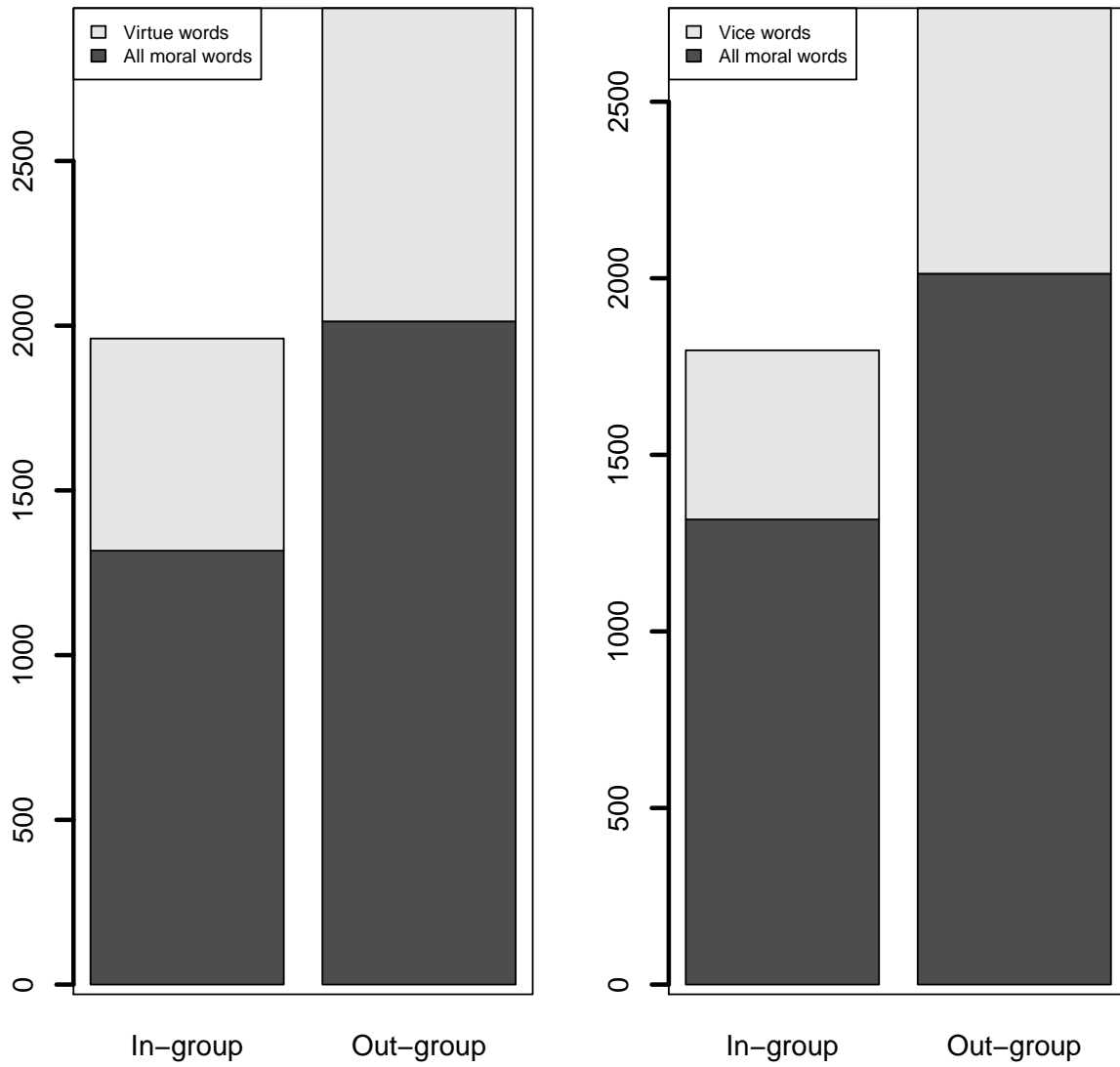
**Figure C.4:** Counts of moral words per social identity (restricted sample)



**Figure C.5:** Counts of moral words per social identity (unrestricted sample)



**Figure C.6:** Virtue and vice words per in and out-group (restricted sample)



**Figure C.7:** Virtue and vice words per in and out-Groups (unrestricted sample)



## C.2.2 Tests of Hypothesis 1

### Differences in Means

**Table C.2:** Difference in means of moral words per identity (restricted sample)

	Ideology	Group of comparison	Difference
Party ID	0.47	0.42	0.05*** (0.01)
Race	0.47	0.26	0.21*** (0.01)
Religion	0.47	0.45	0.02 (0.01)
Sexual orientation	0.47	0.33	0.14*** (0.01)

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

Standard errors shown in parentheses

**Table C.3:** Difference in means of moral words per identity (unrestricted sample)

	Ideology	Group of comparison	Difference
Party ID	0.47	0.42	0.05*** (0.01)
Race	0.47	0.28	0.19*** (0.01)
Religion	0.47	0.46	0.01 (0.01)
Sexual orientation	0.47	0.36	0.11*** (0.01)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Standard errors shown in parentheses

**Table C.4:** Alternative operationalized difference in means of moral words(restricted sample)

	Ideology	Group of comparison	Difference
Party ID (without independents)	0.47	0.42	0.05*** (0.01)
Race (with jews)	0.47	0.33	0.13*** (0.01)
Religion (without Jews)	0.47	0.45	0.02 (0.01)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Standard errors shown in parentheses

Moderates excluded from ideology in the comparison with party identification.

**Table C.5:** Alternative operationalized difference in means of moral words(unrestricted sample)

	Ideology	Group of comparison	Difference
Party ID (without independents)	0.47	0.43	0.04*** (0.01)
Race (with jews)	0.47	0.36	0.11*** (0.01)
Religion (without Jews)	0.47	0.47	-0.001 (0.01)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Standard errors shown in parentheses

Moderates excluded from ideology in the comparison with party identification.

## Regression Analyses

**Table C.6:** Simple regression of count of moral words on social identity (restricted sample)

	Count of moral words	
	OLS	negative binomial
Party ID	-0.05*** (0.01)	-0.11*** (0.03)
Race	-0.21*** (0.01)	-0.60*** (0.03)
Religion	-0.02 (0.01)	-0.03 (0.03)
Sexual orientation	-0.14*** (0.01)	-0.36*** (0.03)

\*p < .1; \*\*p < .05; \*\*\*p < .01

Ideology is the baseline for the identity variable.

White's robust standard errors for the OLS model shown in parentheses.

**Table C.7:** Multiple regression of count of moral words on social identity (restricted sample)

---

	Count of moral words	
	OLS	negative binomial
Party ID	-0.04*** (0.01)	-0.08*** (0.03)
Race	-0.19*** (0.01)	-0.56*** (0.03)
Religion	-0.01 (0.01)	-0.03 (0.03)
Sexual orientation	-0.12*** (0.01)	-0.32*** (0.03)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

Ideology is the baseline for the identity variable.

White's robust standard errors for the OLS model shown in parentheses.

**Table C.8:** Simple regression of count of moral words (unrestricted sample)

---

	Count of moral words	
	OLS	negative binomial
Party ID	-0.05*** (0.01)	-0.11*** (0.03)
Race	-0.19*** (0.01)	-0.52*** (0.03)
Religion	-0.01 (0.01)	-0.02 (0.03)
Sexual orientation	-0.11*** (0.01)	-0.26*** (0.03)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

Ideology is the baseline for the identity variable.

White's robust standard errors for the OLS model shown in parentheses.

**Table C.9:** Simple regression of count of moral words (unrestricted sample)

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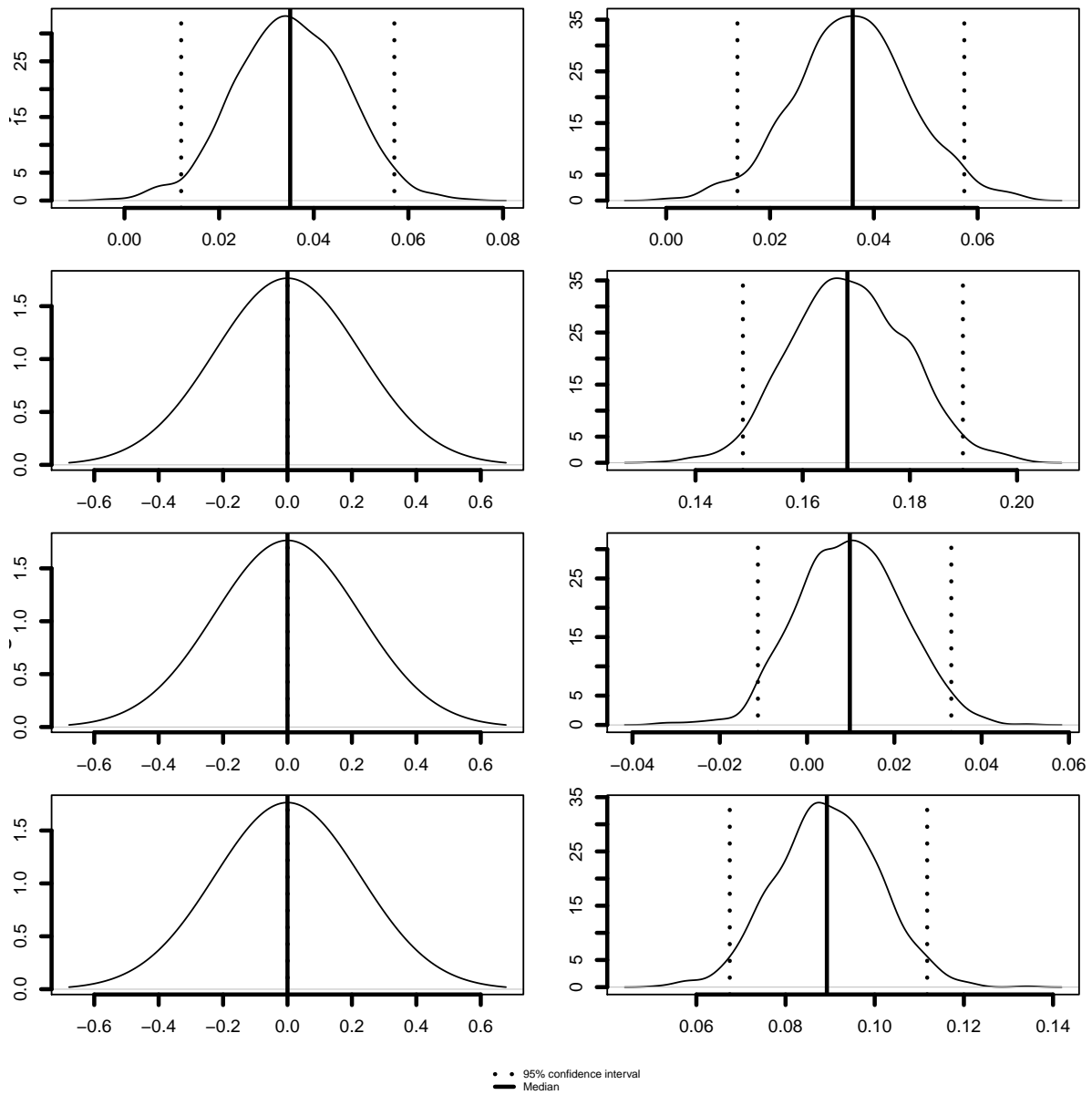
	Count of moral words	
	OLS	negative binomial
Party ID	-0.04*** (0.01)	-0.08*** (0.03)
Race	-0.17*** (0.01)	-0.48*** (0.03)
Religion	-0.01 (0.01)	-0.02 (0.03)
Sexual orientation	-0.09*** (0.01)	-0.22*** (0.03)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

Ideology is the baseline for the identity variable.

White's robust standard errors for the OLS model shown in parentheses.



**Figure C.8:** First differences between ideology and other social attachments on the use of moral language



**Table C.10:** Regression of proportion of moral words

---

	Proportion of moral words	
	Restricted sample	Unrestricted sample
Party ID	−0.003*** (0.001)	−0.003*** (0.001)
Race	−0.02*** (0.001)	−0.02*** (0.001)
Religion	−0.001 (0.001)	−0.001 (0.001)
Sexual orientation	−0.01*** (0.001)	−0.01*** (0.001)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

Ideology is the baseline for the identity variable.

White's robust standard errors shown in parentheses.

### C.2.3 Tests of Hypothesis 2

**Table C.11:** Ideology strength on count of moral words

	Count of moral words			
	OLS	negative	OLS	negative
	binomial		binomial	
	Restricted sample		Unrestricted sample	
Ideology strength	-0.0000	0.0005	0.001	0.003
	(0.01)	(0.03)	(0.01)	(0.02)

\*p < .1; \*\*p < .05; \*\*\*p < .01

White's robust standard errors for the OLS models shown in parentheses.

### C.2.4 Tests of Hypothesis 3

**Table C.12:** Difference in proportions of moral words per in and out-groups (restricted sample)

	In-group	Out-group	Difference
Virtue	0.48	0.46	0.02
			(0.02)
Vice	0.37	0.37	-0.01
			(0.02)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Standard errors shown in parentheses

**Table C.13:** Difference in proportions of moral words per in and out-groups (unrestricted sample)

	In-group	Out-group	Difference
Virtue	0.49	0.47	0.02 (0.02)
Vice	0.36	0.37	-0.01 (0.02)

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Standard errors shown in parentheses

## C.3 Experimental Study

### C.3.1 Experimental Protocol

#### Ideology Treatment

We will first ask you a question about yourself. Next, we will ask you to think of several people, some of which you know personally and some of which you don't. We will then ask you a couple of questions about each of these people. Please try to answer sincerely and thoroughly.

1. When it comes to politics, would you describe yourself as liberal, conservative, or neither liberal nor conservative?

Select one answer from the grid

Very liberal	Somewhat liberal	Closer to liberals	Neither liberal nor conservative	Closer to conservatives	Somewhat conservative	Very conservative
1	2	3	4	5	6	7

[ORDER OF NEXT QUESTIONS RANDOMIZED IN BLOCKS OF TWO]

2. Please think of someone you know personally who is very involved in politics and identifies as a liberal. What is this person's relationship to you? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
3. Please think of a public figure who is very involved in politics and identifies as a liberal. Who did you think of? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
4. Please think of someone you know personally who is very involved in politics and identifies as a conservative. What is this person's relationship to you? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
5. Please think of a public figure who is very involved in politics and identifies as a conservative. Who did you think of? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
6. Please think of someone you know personally who is very involved in politics but identifies as being neither liberal nor conservative. What is this person's relationship to you? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
7. Please think of a public figure who is very involved in politics but identifies as being neither liberal nor conservative. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]
8. Please think of someone you know personally who doesn't care for politics. What is this person's relationship to you? [OPEN ENDED]
- Please use as many words as you can think of to describe this person. [OPEN ENDED]
9. Please think of a public figure who doesn't care for politics. Who did you think of? [OPEN ENDED]
- Please use as many words as you can think of to describe this person. [OPEN ENDED]

### **Party Identification Treatment**

We will first ask you a couple of questions about yourself. Next, we will ask you to think of several people, some of which you know personally and some of which you don't. We will then ask you a couple of questions about each of these people. Please try to answer sincerely and thoroughly.

1. Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?<sup>1</sup>

1 Democrat

2 Republican

3 Independent

---

1. Following the National Election Studies' 2016 questionnaire, items 1 and 2 will be randomized for each respondent.

4 Something else

IF 1 = 1 OR 2 Would you call yourself a strong [REPUBLICAN/DEMOCRAT] or a not very strong [REPUBLICAN/DEMOCRAT]? [IF 1 = 1, INSERT “DEMOCRAT” IN [DEMOCRAT/REPUBLICAN]; ELSE, INSERT “REPUBLICAN”]

1 Strong [DEMOCRAT/REPUBLICAN]

2 Not very strong [DEMOCRAT/REPUBLICAN]

IF 1 =3 OR 4 Do you think of yourself as closer to the Republican or Democratic party?<sup>2</sup>

1 Closer to the Republican Party

2 Closer to the Democratic Party

3 Neither

[ORDER OF NEXT QUESTIONS RANDOMIZED IN BLOCKS OF TWO<sup>3</sup>]

2. Please think of someone you know personally who is very involved in politics and identifies as a Democrat. What is this person’s relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

3. Please think of a public figure who is very involved in politics and identifies as a Democrat. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

---

2. Idem.

3. I.e., a respondent will always see questions[2, 3], [4, 5], [6, 7] and [8, 9] next to each other, but the order in which these pairs will appear will be randomized.

4. Please think of someone you know personally who is very involved in politics and identifies as a Republican. What is this person's relationship to you? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
5. Please think of a public figure who is very involved in politics and identifies as a Republican. Who did you think of? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
6. Please think of someone you know personally who is very involved in politics but identifies as an independent. What is this person's relationship to you? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
7. Please think of a public figure who is very involved in politics but identifies as an independent. Who did you think of? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
8. Please think of someone you know personally who doesn't care for politics. What is this person's relationship to you? [OPEN ENDED]
  - Please use as many words as you can think of to describe this person. [OPEN ENDED]
9. Please think of a public figure who doesn't care for politics. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

## **Religion Treatment**

We will first ask you a couple of questions about yourself. Next, we will ask you to think of several people, some of which you know personally and some of which you don't. We will then ask you a couple of questions about each of these people. Please try to answer sincerely and thoroughly.

1. What is your present religion, if any? Are you Protestant, Roman Catholic, Mormon, Orthodox such as Greek or Russian Orthodox, Jewish, Muslim, Buddhist, Hindu, atheist, agnostic, something else, or nothing in particular?<sup>4</sup> [ORDER OF OPTIONS RANDOMIZED]

1 Protestant

2 Roman Catholic

3 Mormon

4 Orthodox

5 Jewish

6 Muslim

7 Buddhist

8 Hindu

9 Something else

10 Agnostic

---

4. Question phrasing taken from the Pew Research Center's standard questionnaire and also used by the 2016 National Election Studies.



11 Atheist

12 Nothing in particular

2. Would you call yourself religious, non-religious, or neither religious nor non-religious?

Select one answer from the grid

---

Strongly religious	Religious	Somewhat religious	Neither religious nor non-religious	Somewhat non-religious	Non-religious	Strongly non-religious
1	2	3	4	5	6	7

---

[ORDER OF NEXT QUESTIONS RANDOMIZED IN BLOCKS OF TWO]

3. [IF 1 < 9] Please think of someone you know personally who belongs to the same religion you do. What is this person's relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

4. [IF 1 < 9] Please think of a public figure who belongs to the same religion you do. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

5. [IF 1 < 9] Please think of someone you know personally who belongs to a different religion than you do. What is this person's relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

6. [IF 1 < 9] Please think of a public figure who belongs to a different religion than you do. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

7. [IF 1  $\geq$  9] Please think of someone you know personally who is religious. What is this person's relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

8. [IF 1  $\geq$  9] Please think of a public figure who is religious. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

9. Please think of someone you know personally who is not religious. What is this person's relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

10. Please think of a public figure who is not religious. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

### **Sports Preferences Treatment**

We will first ask you a couple of questions about yourself. Next, we will ask you to think of several people, some of which you know personally and some of which you don't. We will then ask you a couple of questions about each of these people. Please try to answer sincerely and thoroughly.

1. When it comes to sports, what's your favorite team? [OPEN-ENDED]

2. Would you call yourself a strong fan, a weak fan, or neither a strong nor a weak fan?

Select one answer from the grid

---

Very strong fan	Strong fan	Somewhat strong fan	Neither strong nor weak fan	Somewhat weak fan	Weak fan	Very Weak fan
1	2	3	4	5	6	7

---

[ORDER OF NEXT QUESTIONS RANDOMIZED IN BLOCKS OF TWO]

3. Please think of someone you know personally who is a very strong fan of the same team you support. What is this person's relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

4. Please think of a public figure who is a very strong fan of the same team you support. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

5. Please think of someone you know personally who is a very strong fan of the team rival to the team you support. What is this person's relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

6. Please think of a public figure who is a very strong fan of the team rival to the team you support. Who did you think of? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]

7. Please think of someone you know personally who doesn't care for any sports team. What is this person's relationship to you? [OPEN ENDED]

- Please use as many words as you can think of to describe this person. [OPEN ENDED]
8. Please think of a public figure who doesn't care for any sports team. Who did you think of? [OPEN ENDED]
- Please use as many words as you can think of to describe this person. [OPEN ENDED]

### **C.3.2 Instructions to Coders**

#### **Instructions for Counting Moral Words**

Please follow this scheme, step by step, to code the entries in the spreadsheet attached:

1. For each column named "Words", count the number of Moral Words in each entry, according to the Moral Foundations Dictionary.
  - Take context into consideration. A word in the dictionary may or may not be considered moral – for example, "even" can mean both "fair" and "divisible by two". Context will define whether or not the word is moral.
2. Sum the number of moral words in each entry and enter it in the column immediately next to it, labeled "Counts".
  - If the entry does not contain any moral words, enter 0.
3. Then count the number of positive words (coded 1, 3, 5, 7 and 9 in the dictionary) and enter it in the column labeled "Positive", immediately next to the "Counts" column.
  - Again, context is everything. The word "care" is coded as being a positive one in the dictionary, but if the entry says that the person "does not care for other people", it obviously has a negative connotation.

- If the entry does not contain any positive words, enter 0.
4. Finally, count the number of negative words (coded 2, 4, 6, 8 and 10 in the dictionary) in the entry and enter it in the column labeled “Negative”, immediately next to the “Positive” column.
    - Again, the context recommendation explained above also applies here.
    - If the entry does not contain any negative words, enter 0.
  5. Use the “Comments” column to clarify any ambiguity or doubts you think I need to be aware of.

**Important!** Please don’t change the position of any of the rows, don’t edit any of the existing entries and don’t change the names or the order of the columns. Thanks!

### **Instructions for Coding Engagement**

Please follow this scheme, step by step, to code the entries in the spreadsheet attached:

1. On the “Sports team” column, ensure that all entries actually refer to an existing sports team.
  - Leave blank entries as they are.
  - The particular sport modality or ranking is irrelevant.
  - In case you don’t immediately recognize the entry, search the internet for the term.
  - Incomplete names of teams are fully acceptable, as long as the association with the team is unambiguous (eg, “Lakers” is a fully acceptable entry for the Los Angeles Lakers).
  - If you are able to associate the entry with any team, leave the field exactly as it was originally.

- If, after a thorough examination of the results, you are still unable to associate the entry with any sports team, replace it with NA (capitalized, no special characters – such as N/A, or quotation marks).
- Use the “Comments” column to explain any ambiguities, doubts you had or any other thing that you think I need to be aware of.

**Examples of acceptable entries** “Tritons”, “Dodgers”, “Team USA”.

**Examples of unacceptable entries** “Don’t know”, “don’t watch sports”.

2. On every one of the several “Personal relationship” columns, ensure that the entry refers to someone whom the respondent may reasonably know personally:

- Leave blank entries as they are.
- If the entry is reasonable, leave it exactly as it was originally.
- If it isn’t, replace it with NA (capitalized, no special characters – such as N/A, or quotation marks).
- Use the “Comments” column to explain any ambiguities, doubts you had or any other thing that you think I need to be aware of.

**Examples of acceptable entries** Family members (“brother”, “sister”, “father”, “cousin”, etc), “friend”, “teacher”, “roommate”.

**Examples of unacceptable entries** “Don’t know”, “no one”, “Barak Obama”, “God”, any entry that doesn’t refer to an individual.

3. On every one of the several “Public figure” columns, ensure that the entries do refer to an individual that is widely known.

- Leave blank entries as they are.

- “Widely known” means that the person appears (or has appeared) in the media (TV, print or internet).
- The particular reason why the person is famous is irrelevant (eg, celebrities, politicians, public intellectuals, artists).
- In case you don’t immediately recognize the entry, search the internet for the term.
- Incomplete names are fully acceptable, as long as it’s clear that it refers to a famous person (eg, “Obama” for “Barak Obama” or “Clinton” for any of the Clintons).
- If you are able to associate the entry with a public person, leave the field exactly as it was originally.
- If, after a thorough examination of the results, you are still unable to associate the entry with any public person, replace it with NA (capitalized, no special characters – such as N/A, or quotation marks).
- Use the “Comments” column to explain any ambiguities, doubts you had or any other thing that you think I need to be aware of.

**Examples of acceptable entries** “H. Clinton”, “Beyonce”, “the pope”.

**Examples of unacceptable entries** “Don’t know”, “no one in particular”, “my mother”, “God”.

**Important!** Please don’t change the position of any of the rows, don’t edit any of the entries in the “randomengagement” column and don’t change the names or the order of the columns.

Thanks!

### C.3.3 Distributions of Moral Words

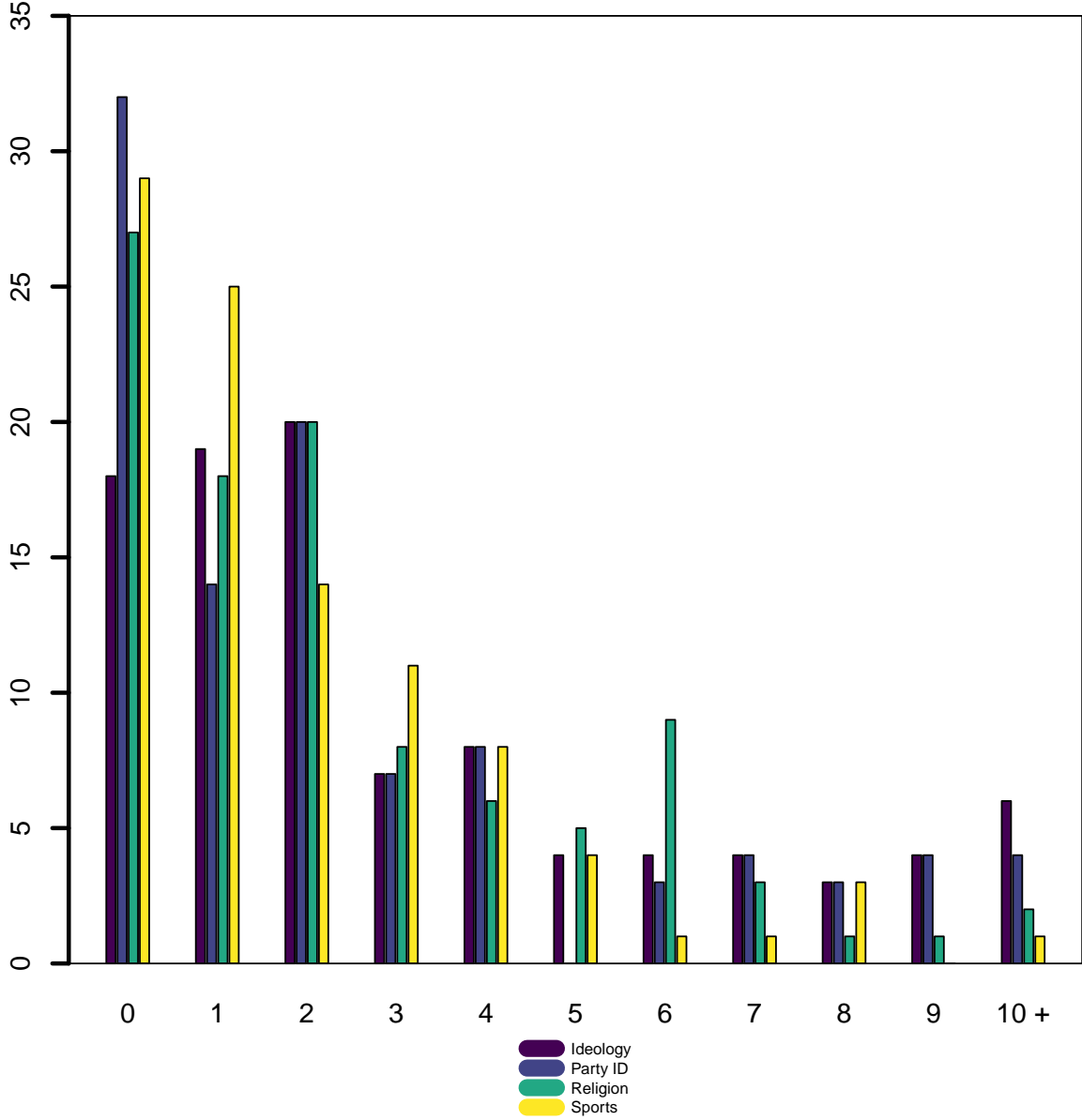
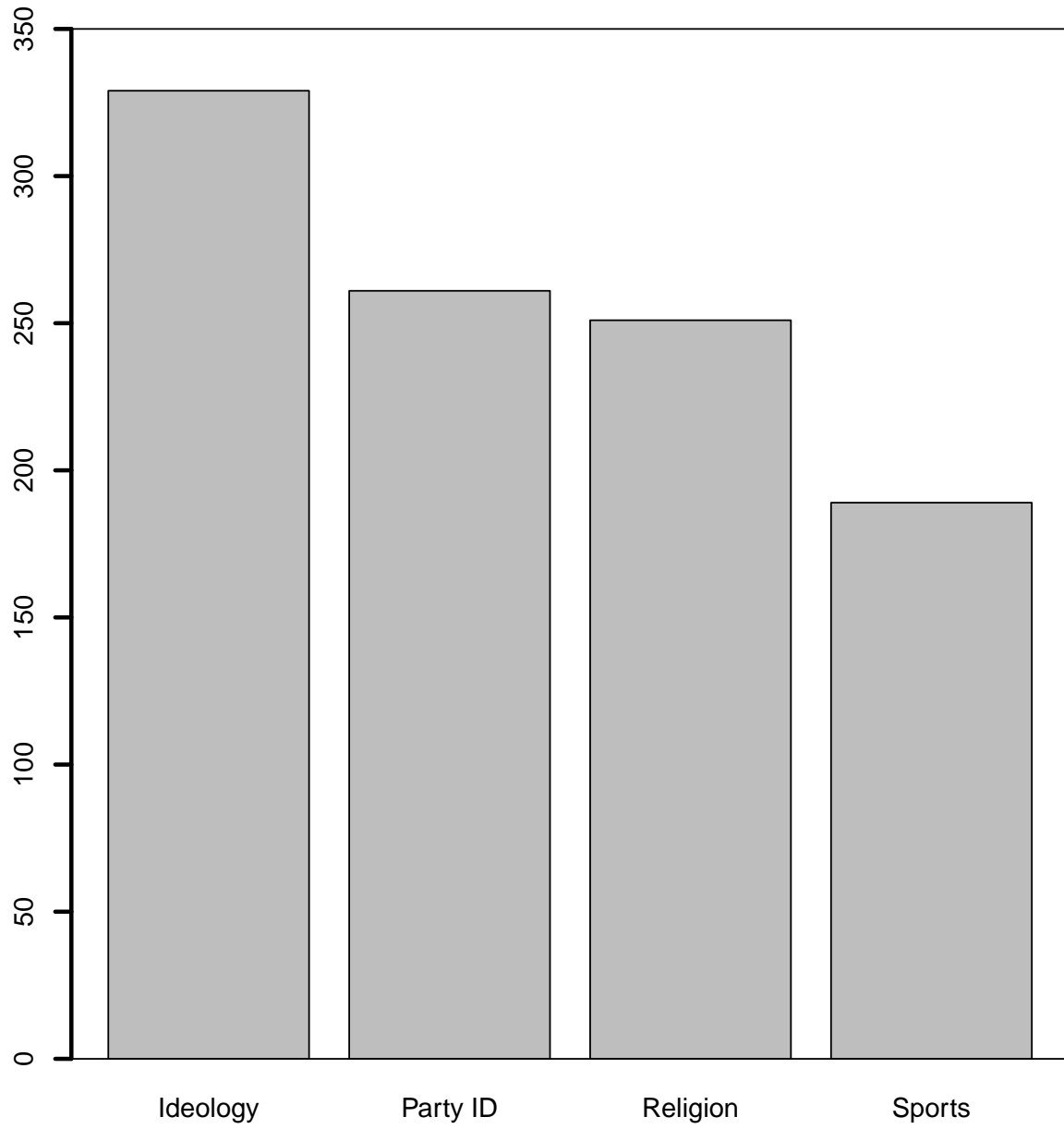
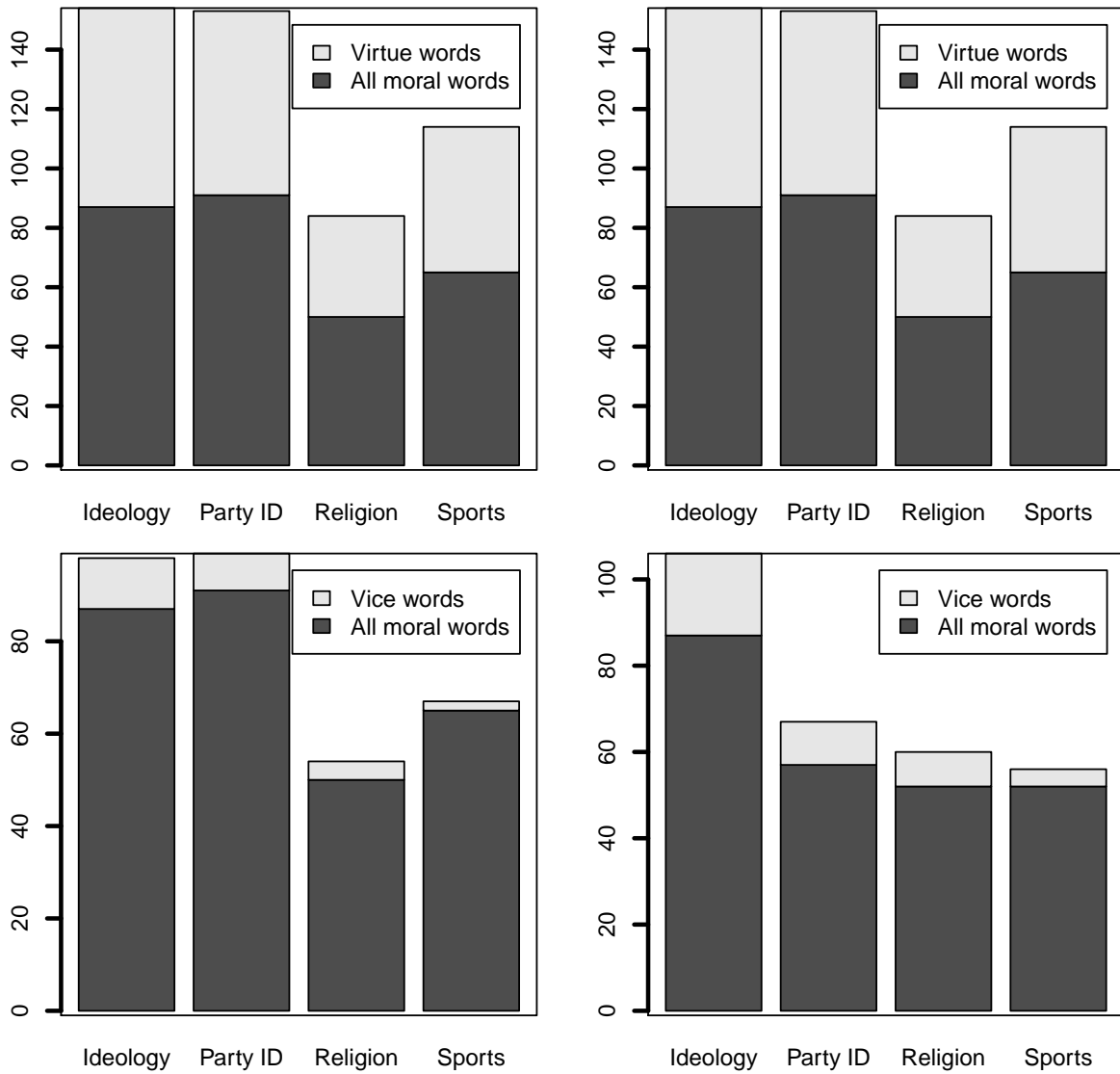


Figure C.9: Distribution of moral words per social identity





**Figure C.10:** Counts of moral words per social identity



**Figure C.11:** Virtue and vice words per in and out-groups

### C.3.4 Tests of Hypothesis 1

#### Differences in Means

**Table C.14:** Difference in means of moral words per identity

	Ideology	Group of comparison	Difference
Party ID	3.39	2.64	0.76 (0.54)
Religion	3.39	2.32	1.07** (0.5)
Sports	3.39	1.95	1.44*** (0.49)

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

Standard errors shown in parentheses

**Table C.15:** Difference in means of moral words between ideology without moderates and party ID without independents

	Ideology	Party ID	Difference
1	3.52	2.68	0.84 (0.6)

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

Standard errors shown in parentheses

**Table C.16:** Difference in means of moral words per identity – validated

---

	Ideology	Group of comparison	Difference
Party ID	3.39	2.59	0.81 (0.53)
Religion	3.39	2.30	1.09** (0.5)
Sports	3.39	2.02	1.37*** (0.5)

---

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

Standard errors shown in parentheses

## Regression Analyses

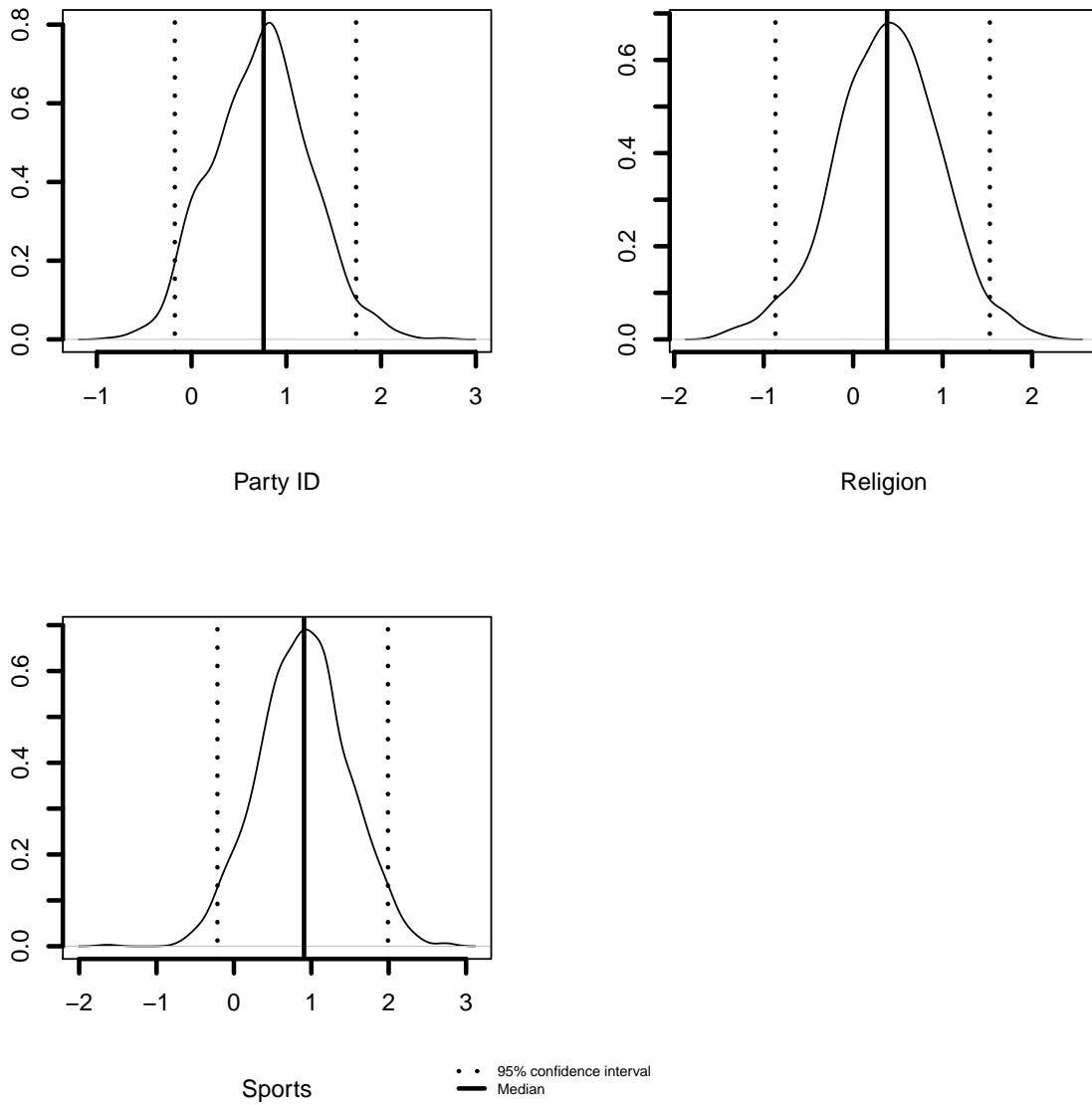
**Table C.17:** Regression results of count of moral words

	Count of moral words			
	OLS	negative binomial	OLS	negative binomial
	Simple regression		Includes covariates	
2	-0.76 (0.54)	-0.25 (0.16)	-0.91 (0.57)	-0.27* (0.14)
3	-0.39 (0.60)	-0.12 (0.19)	-1.07* (0.64)	-0.28* (0.16)
4	-0.89 (0.56)	-0.32 (0.20)	-1.52*** (0.55)	-0.52*** (0.18)

\*p < .1; \*\*p < .05; \*\*\*p < .01

Ideology is the baseline for the treatment variable.

White's robust standard errors for the OLS model shown in parentheses.



**Figure C.12:** First differences between ideology and other social attachments on the use of moral language

**Table C.18:** Regression of proportion of moral words

---

	Proportion of moral words
2	-0.01
3	0.01
4	-0.02

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

Ideology is the baseline for the treatment variable.

White's robust standard errors shown in parentheses.

### C.3.5 Tests of Hypothesis 2

**Table C.19:** Regression of ideology strength on count of moral words

---

	Count of moral words	
	OLS	negative binomial
Ideology strength	0.76*** (0.26)	0.17*** (0.05)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

White's robust standard errors for the OLS model shown in parentheses.



**Table C.20:** Regression of party ID strength on count of moral words

---

	Count of moral words	
	OLS	negative binomial
Party ID strength	-0.19 (1.07)	-0.28 (0.29)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

White's robust standard errors for the OLS model shown in parentheses.

**Table C.21:** Regression of religion strength on count of moral words

---

	Count of moral words	
	OLS	negative binomial
Religion strength	0.22 (0.81)	0.21 (0.24)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

White's robust standard errors for the OLS model shown in parentheses.

**Table C.22:** Regression of sports strength on count of moral words

---

	Count of moral words	
	OLS	negative binomial
Sports strength	0.58 (0.43)	0.32 (0.22)

---

\*p < .1; \*\*p < .05; \*\*\*p < .01

White's robust standard errors for the OLS model shown in parentheses.

### C.3.6 Tests of Hypothesis 3

**Table C.23:** Difference in proportions of virtue words per in and out-groups

---

	In-group	Out-group	Difference
Ideology	0.77	0.63	0.14** (0.07)
Party ID	0.68	0.63	0.05 (0.08)
Religion	0.68	0.73	-0.05 (0.09)
Sports	0.75	0.69	0.06 (0.08)

---

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Standard errors shown in parentheses

**Table C.24:** Difference in proportions of vice words per in and out-groups

	In-group	Out-group	Difference
Ideology	0.13	0.22	-0.09 (0.06)
Party ID	0.09	0.18	-0.09 (0.06)
Religion	0.08	0.15	-0.07 (0.06)
Sports	0.03	0.08	-0.05 (0.04)

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

Standard errors shown in parentheses

## Appendix D

### Supplemental Materials for chapter 6

#### D.1 ANES Cumulative Data File Substantive Questions

**Table D.1:** List of ANES substantive questions used

Question	Variable	Scale (pts)	Classification
Government Health Insurance Scale	VCF0806	7	Size of government
Guaranteed Jobs and Income Scale	VCF0809	7	Size of government
Better off if U.S. Unconcerned with Rest of World	VCF0823	2	Foreign policy
Aid to Blacks Scale	VCF0830	7	Race

*continues on next page*

**Table D.1:** List of ANES substantive questions used (*continued*)

Question	Variable	Scale (pts)	Classification
By Law, When Should Abortion Be Allowed	VCF0838	4	Culture & morality
Government Services-Spending Scale	VCF0839	7	Size of government
Defense Spending Scale	VCF0843	7	Foreign policy
Newer Lifestyles Contribute to Society Breakdown	VCF0851	5	Culture & morality
Should Adjust View of Moral Behavior to Changes	VCF0852	5	Culture & morality
Should be More Emphasis on Traditional Values	VCF0853	5	Culture & morality
Tolerance of Different Moral Standards	VCF0854	5	Culture & morality
Affirmative Action in Hiring/Promotion [2 of 2]	VCF0867	4	Race
Law to Protect Homosexuals Against Discrimination	VCF0876	2	Culture & morality
Increase or Decrease Number of Immigrants to U.S. 6-Category	VCF0879	5	Race
Federal Spending- Poor/Poor People	VCF0886	3	Size of government

*continues on next page*

**Table D.1:** List of ANES substantive questions used (*continued*)

Question	Variable	Scale (pts)	Classification
Federal Spending- Child Care	VCF0887	3	Size of government
Federal Spending- Dealing with Crime	VCF0888	3	Unclassified
Federal Spending- Public Schools	VCF0890	3	Size of government
Federal Spending- Welfare Programs	VCF0894	3	Size of government
Society Ensure Equal Opportunity to Succeed	VCF9013	5	Equality vs. inequality
Not Big Problem if Some Have More Chance in Life	VCF9016	5	Equality vs. inequality
Should Worry less about How Equal People Are	VCF9017	5	Equality vs. inequality
U.S. Fewer Problems if Everyone Treated Equally	VCF9018	5	Equality vs. inequality
Conditions Make it Difficult for Blacks to Succeed	VCF9039	5	Race
Blacks Should Not Have Special Favors to Succeed	VCF9040	5	Race
Blacks Must Try Harder to Succeed	VCF9041	5	Race

*continues on next page*

**Table D.1:** List of ANES substantive questions used (*continued*)

Question	Variable	Scale (pts)	Classification
Blacks Gotten Less than They Deserve Over the Past Few Years	VCF9042	5	Race
Federal Spending- Improve and Protect the Environment	VCF9047	3	Unclassified
Federal Spending- Space/Science/Technology	VCF9048	3	Unclassified
Federal Spending- Social Secu- rity	VCF9049	3	Size of government
Less Government Better OR Government Do More	VCF9131	2	Size of government
Govt Handle Economy OR Free Market Can Handle	VCF9132	2	Size of government
Govt Too Involved in Things OR Problems Require	VCF9133	2	Size of government

Source: ANES cumulative data file codebook.

## **D.2 Full Regression results for issue positions index on Ideological Identification**

### **D.2.1 Linear Analysis**

**Table D.2:** regression of issue positions index on ideological and party ID, separately

---

	Ideological ID	Party ID
1972	0.18 (0.15;0.21)	0.07 (0.06;0.09)
1976	0.17 (0.14;0.2)	0.07 (0.05;0.09)
1980	0.15 (0.12;0.17)	0.06 (0.04;0.08)
1984	0.13 (0.11;0.14)	0.08 (0.07;0.09)
1988	0.13 (0.11;0.15)	0.08 (0.07;0.09)
1992	0.14 (0.13;0.15)	0.09 (0.08;0.1)
1996	0.19 (0.17;0.21)	0.12 (0.11;0.13)
2000	0.14 (0.11;0.16)	0.11 (0.09;0.12)
2004	0.18 (0.16;0.19)	0.11 (0.1;0.12)
2008	0.15 (0.13;0.16)	0.1 (0.09;0.11)

---

*continues on next page*

---



**Table D.2:** regression of issue positions index on ideological and party ID, separately (*continued*)

	Ideological ID	Party ID
2012	0.16 (0.15;0.18)	0.12 (0.11;0.13)
2016	0.22 (0.2;0.24)	0.15 (0.14;0.17)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table D.3:** regression of issue positions index on ideological and party ID, simultaneously

	Ideological ID	Party ID
1972	0.16 (0.13;0.19)	0.04 (0.02;0.06)
1976	0.16 (0.12;0.19)	0.03 (0;0.05)
1980	0.13 (0.1;0.16)	0.03 (0.01;0.04)
1984	0.09 (0.07;0.11)	0.06 (0.05;0.07)
1988	0.1	0.06

*continues on next page*

**Table D.3:** regression of issue positions index on ideological and party ID, simultaneously  
(continued)

	Ideological ID	Party ID
	(0.08;0.11)	(0.05;0.07)
1992	0.1	0.06
	(0.09;0.11)	(0.05;0.07)
1996	0.12	0.07
	(0.1;0.15)	(0.06;0.09)
2000	0.08	0.08
	(0.06;0.11)	(0.07;0.1)
2004	0.12	0.07
	(0.1;0.14)	(0.05;0.08)
2008	0.09	0.07
	(0.07;0.11)	(0.05;0.08)
2012	0.1	0.08
	(0.08;0.11)	(0.06;0.09)
2016	0.15	0.08
	(0.12;0.17)	(0.07;0.1)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table D.4:** regression of issue positions index on ideological and party ID, including covariates

---

	Ideological ID	Party ID
1972	0.13 (0.1;0.16)	0.03 (0.01;0.05)
1976	0.13 (0.1;0.16)	0.02 (0;0.05)
1980	0.12 (0.09;0.15)	0.02 (0;0.04)
1984	0.08 (0.06;0.09)	0.05 (0.04;0.06)
1988	0.08 (0.07;0.1)	0.05 (0.04;0.05)
1992	0.09 (0.07;0.1)	0.05 (0.04;0.06)
1996	0.12 (0.09;0.14)	0.06 (0.05;0.07)
2000	0.07 (0.05;0.1)	0.07 (0.06;0.09)
2004	0.12 (0.09;0.14)	0.05 (0.03;0.07)
2008	0.08 (0.06;0.1)	0.06 (0.04;0.07)

---

*continues on next page*

---

**Table D.4:** regression of issue positions index on ideological and party ID, including covariates  
(continued)

	Ideological ID	Party ID
2012	0.09 (0.07;0.11)	0.07 (0.06;0.08)
2016	0.13 (0.11;0.16)	0.08 (0.07;0.1)

Source: ANES cumulative data file.  
Survey-consistent robust 95% confidence intervals shown in parentheses.  
All models include state fixed effects and controls.

**Table D.5:** Comparing different estimation strategies for the association between issue positions and ideological and party ID

	Ideological ID	Party ID
Simple difference in differences	0.16 (0.15;0.17)	0.1 (0.09;0.1)
Difference in differences (including both)	0.12 (0.11;0.13)	0.06 (0.05;0.06)
Difference in differences (including covariates)	0.11 (0.1;0.11)	0.05 (0.04;0.05)
Two-stage least squares	0.08	0.03

*continues on next page*

**Table D.5:** Comparing different estimation strategies for the association between issue positions and ideological and party ID (*continued*)

	Ideological ID	Party ID
	(0.07;0.08)	(0.03;0.04)
Lasso	0.1	0.05
	(0.1;0.11)	(0.04;0.05)

Source: ANES cumulative data file.

95% confidence intervals shown in parentheses.

All models include state and year fixed effects.

## D.2.2 Categorical Analysis

**Table D.6:** regression of issue positions index on categorical ideological ID

	Liberal	Moderate	Conservative
1972	-1.28	-0.93	-0.75
	(-1.54; -1.02)	(-1.19; -0.66)	(-1; -0.49)
1976	-0.83	-0.55	-0.31
	(-1.2; -0.46)	(-0.92; -0.18)	(-0.68; 0.06)
1980	-0.4	-0.15	0.05
	(-0.69; -0.11)	(-0.43; 0.13)	(-0.23; 0.33)
1984	-0.55	-0.33	-0.15
	(-0.7; -0.39)	(-0.47; -0.18)	(-0.3; 0)
1988	-0.42	-0.24	-0.01

*continues on next page*

**Table D.6:** regression of issue positions index on categorical ideological ID (*continued*)

	Liberal	Moderate	Conservative
	(-0.55; -0.28)	(-0.37; -0.11)	(-0.14; 0.11)
1992	-0.44	-0.18	0.02
	(-0.6; -0.28)	(-0.34; -0.02)	(-0.14; 0.17)
1996	-0.34	-0.08	0.24
	(-0.45; -0.23)	(-0.19; 0.03)	(0.13; 0.35)
2000	-0.5	-0.26	-0.04
	(-0.68; -0.32)	(-0.45; -0.07)	(-0.23; 0.14)
2004	-0.53	-0.25	0.06
	(-0.67; -0.38)	(-0.39; -0.12)	(-0.07; 0.2)
2008	-0.41	-0.14	0.07
	(-0.54; -0.27)	(-0.27; -0.01)	(-0.06; 0.2)
2012	-1.07	-0.79	-0.52
	(-1.25; -0.88)	(-0.98; -0.61)	(-0.7; -0.34)
2016	-0.59	-0.14	0.18
	(-0.8; -0.39)	(-0.34; 0.06)	(-0.02; 0.38)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table D.7:** regression of issue positions index on categorical ideological ID, including covariates

	Liberal	Moderate	Conservative
1972	-1.25 (-1.56; -0.95)	-1.05 (-1.36; -0.74)	-0.89 (-1.21; -0.57)
1976	-1.08 (-1.5; -0.66)	-0.92 (-1.33; -0.5)	-0.72 (-1.15; -0.29)
1980	-0.62 (-0.93; -0.31)	-0.44 (-0.75; -0.14)	-0.27 (-0.58; 0.04)
1984	-0.79 (-0.95; -0.62)	-0.63 (-0.8; -0.47)	-0.56 (-0.73; -0.38)
1988	-0.62 (-0.77; -0.46)	-0.54 (-0.69; -0.38)	-0.39 (-0.54; -0.23)
1992	-0.7 (-0.84; -0.56)	-0.55 (-0.69; -0.4)	-0.43 (-0.58; -0.28)
1996	-0.5 (-0.68; -0.32)	-0.34 (-0.52; -0.16)	-0.18 (-0.37; 0)
2000	-0.74 (-0.92; -0.57)	-0.64 (-0.83; -0.46)	-0.52 (-0.72; -0.32)
2004	-0.56 (-0.73; -0.38)	-0.36 (-0.54; -0.19)	-0.2 (-0.39; -0.01)
2008	-0.74 (-0.9; -0.58)	-0.6 (-0.76; -0.44)	-0.53 (-0.71; -0.35)

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**Table D.7:** regression of issue positions index on categorical ideological ID, including covariates (*continued*)

	Liberal	Moderate	Conservative
2012	-0.97 (-1.21; -0.72)	-0.81 (-1.06; -0.56)	-0.69 (-0.95; -0.44)
2016	-0.93 (-1.16; -0.7)	-0.65 (-0.88; -0.42)	-0.51 (-0.75; -0.27)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects and covariates.

**Table D.8:** Comparing different estimation strategies for the association between issue positions and categorical ideological ID

	Liberal	Conservative
Simple difference in differences	-0.29 (-0.31; -0.27)	0.24 (0.22; 0.26)
Difference in differences (including covariates)	-0.17 (-0.2; -0.15)	0.14 (0.12; 0.16)
Two-stage least squares	-0.13 (-0.15; -0.11)	0.1 (0.08; 0.12)
Lasso	0.14 (0.12; 0.16)	-0.17 (-0.19; -0.16)

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**Table D.8:** Comparing different estimation strategies for the association between issue positions and categorical ideological ID (*continued*)

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	Liberal	Conservative
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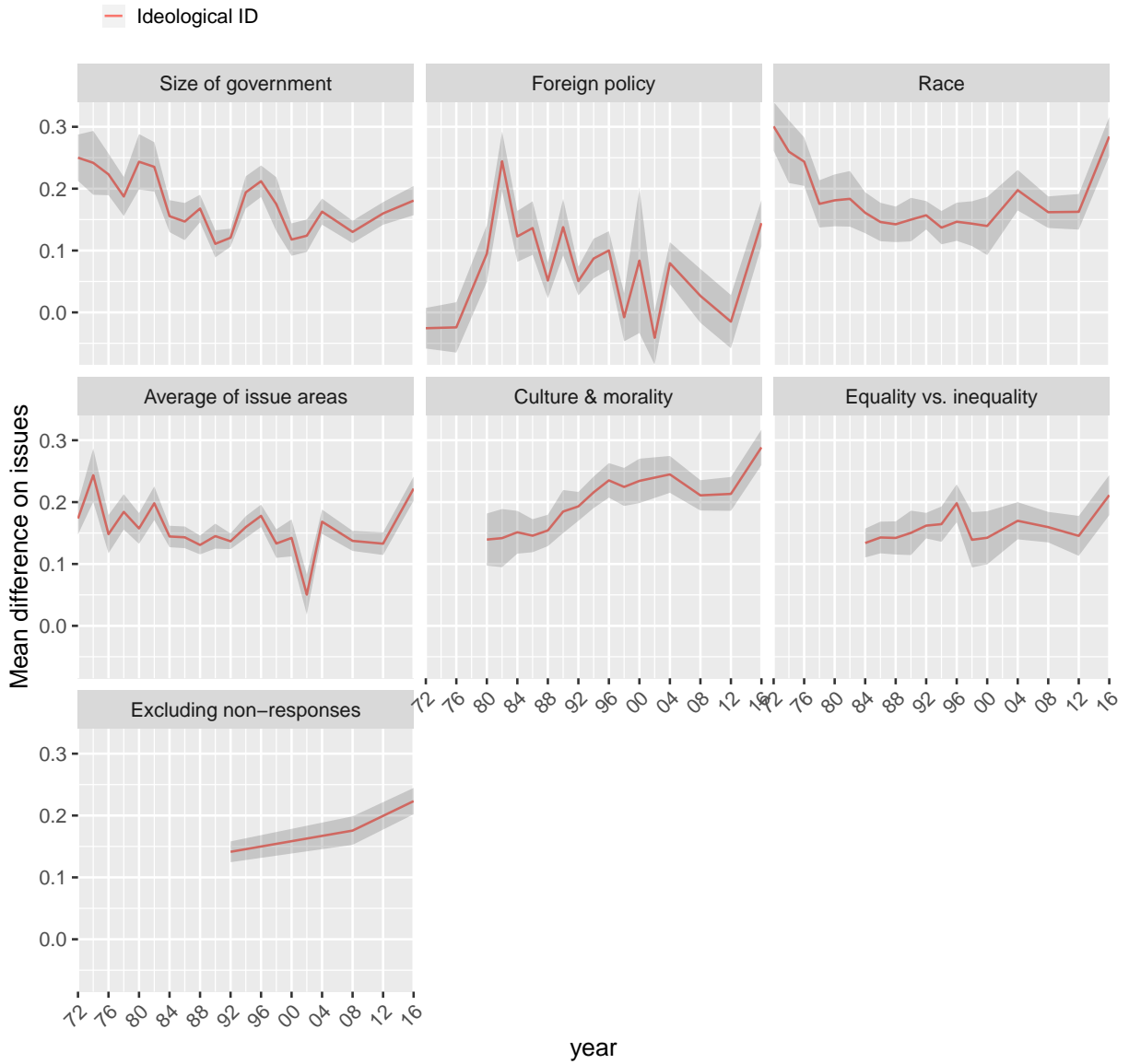
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Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects and covariates.

### D.3 Different Operationalizations of Issue Positions Index



Source: ANES cumulative data file. Only face-to-face interviews included.

**Figure D.1:** Alternative operationalizations of issues position index

## D.4 Relative Importance of Issue Areas on Issue Index

**Table D.9:** Regression of issue positions index on ideological identification and issue areas

Ideological ID	0.01*	[0.01;0.01]
Size of government	0.25*	[0.25;0.26]
Equality vs. inequality	0.16*	[0.16;0.17]
Foreign policy	0.06*	[0.06;0.06]
Race	0.20*	[0.20;0.21]
Culture & morality	0.21*	[0.20;0.21]
Deviance	181.85	
Dispersion	0.01	
Num. obs.	14902	

\* 0 outside the confidence interval..

Survey-consistent robust 95% confidence intervals shown in parenthesis.

State-year fixed effects omitted.

# Appendix E

## Supplemental Materials for chapter 7

### E.1 Presidential Vote (Major Party)

**Table E.1:** regression of major party presidential vote on ideological and party ID, separately

	Ideological ID	Party ID
1972	0.17 (0.15;0.19)	0.13 (0.12;0.14)
1976	0.17 (0.15;0.19)	0.15 (0.14;0.16)
1980	0.15 (0.13;0.17)	0.15 (0.14;0.16)
1984	0.16 (0.14;0.17)	0.16 (0.15;0.16)

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**Table E.1:** regression of major party presidential vote on ideological and party ID, separately  
(continued)

	Ideological ID	Party ID
1988	0.17 (0.16;0.19)	0.16 (0.16;0.17)
1992	0.18 (0.17;0.2)	0.17 (0.16;0.18)
1996	0.21 (0.19;0.23)	0.17 (0.16;0.18)
2000	0.18 (0.16;0.21)	0.17 (0.16;0.19)
2004	0.21 (0.19;0.23)	0.18 (0.17;0.19)
2008	0.19 (0.17;0.2)	0.16 (0.15;0.17)
2012	0.2 (0.19;0.22)	0.17 (0.16;0.18)
2016	0.22 (0.2;0.23)	0.18 (0.17;0.19)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.2:** regression of major party presidential vote on ideological and party ID, simultaneously

	Ideological ID	Party ID
1972	0.11 (0.09;0.12)	0.11 (0.09;0.12)
1976	0.08 (0.06;0.11)	0.12 (0.11;0.14)
1980	0.05 (0.03;0.08)	0.13 (0.12;0.15)
1984	0.05 (0.03;0.07)	0.14 (0.13;0.15)
1988	0.06 (0.04;0.08)	0.15 (0.13;0.16)
1992	0.07 (0.05;0.08)	0.15 (0.14;0.16)
1996	0.05 (0.03;0.07)	0.15 (0.14;0.16)
2000	0.05 (0.03;0.08)	0.16 (0.14;0.17)
2004	0.05 (0.03;0.08)	0.15 (0.14;0.17)
2008	0.06 (0.04;0.08)	0.14 (0.12;0.15)

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**Table E.2:** regression of major party presidential vote on ideological and party ID, simultaneously (*continued*)

	Ideological ID	Party ID
2012	0.06 (0.04;0.08)	0.14 (0.13;0.16)
2016	0.08 (0.06;0.11)	0.13 (0.11;0.15)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.3:** regression of major party presidential vote on ideological and party ID, including covariates

	Ideological ID	Party ID
1972	0.08 (0.06;0.1)	0.1 (0.09;0.11)
1976	0.08 (0.06;0.1)	0.12 (0.11;0.14)
1980	0.05 (0.03;0.08)	0.13 (0.11;0.15)
1984	0.04 (0.02;0.06)	0.13 (0.12;0.14)

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**Table E.3:** regression of major party presidential vote on ideological and party ID, including covariates (*continued*)

	Ideological ID	Party ID
1988	0.05 (0.03;0.07)	0.14 (0.12;0.15)
1992	0.06 (0.05;0.08)	0.14 (0.13;0.15)
1996	0.05 (0.03;0.08)	0.15 (0.13;0.16)
2000	0.04 (0.02;0.07)	0.16 (0.14;0.18)
2004	0.06 (0.04;0.09)	0.14 (0.12;0.16)
2008	0.06 (0.04;0.08)	0.12 (0.11;0.14)
2012	0.07 (0.04;0.09)	0.13 (0.12;0.15)
2016	0.08 (0.05;0.11)	0.12 (0.1;0.14)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects and controls.



**Table E.4:** Comparing different estimation strategies for the association between major party presidential vote and ideological and party ID

	Ideological ID	Party ID
Simple difference in differences	0.19 (0.18;0.19)	0.16 (0.16;0.16)
Difference in differences (including both)	0.07 (0.06;0.08)	0.14 (0.13;0.14)
Difference in differences (including covariates)	0.07 (0.06;0.07)	0.13 (0.12;0.13)
Two-stage least squares	0.04 (0.04;0.05)	0.08 (0.07;0.08)
Lasso	0.06 (0.06;0.07)	0.13 (0.12;0.13)

Source: ANES cumulative data file.

95% confidence intervals shown in parentheses.

All models include state and year fixed effects.

## E.2 House Vote

**Table E.5:** regression of House vote on ideological and party ID, separately

	Ideological ID	Party ID
1972	0.1	0.13

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**Table E.5:** regression of House vote on ideological and party ID, separately (*continued*)

	Ideological ID	Party ID
	(0.08;0.13)	(0.11;0.14)
1976	0.12	0.12
	(0.1;0.15)	(0.1;0.13)
1980	0.1	0.1
	(0.07;0.12)	(0.08;0.11)
1984	0.12	0.11
	(0.1;0.14)	(0.1;0.13)
1988	0.13	0.11
	(0.11;0.15)	(0.1;0.12)
1992	0.13	0.12
	(0.11;0.15)	(0.11;0.13)
1996	0.16	0.15
	(0.14;0.18)	(0.13;0.16)
2000	0.15	0.13
	(0.11;0.18)	(0.11;0.15)
2004	0.16	0.14
	(0.13;0.18)	(0.13;0.16)
2008	0.18	0.16
	(0.16;0.2)	(0.15;0.17)
2012	0.18	0.16

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**Table E.5:** regression of House vote on ideological and party ID, separately (*continued*)

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	Ideological ID	Party ID
	(0.17;0.2)	(0.15;0.17)
2016	0.18	0.16
	(0.16;0.2)	(0.14;0.17)

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Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.6:** regression of House vote on ideological and party ID, simultaneously

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	Ideological ID	Party ID
1972	0.03	0.12
	(0.01;0.05)	(0.11;0.13)
1976	0.05	0.1
	(0.03;0.08)	(0.08;0.12)
1980	0.03	0.09
	(0;0.06)	(0.07;0.11)
1984	0.04	0.1
	(0.02;0.06)	(0.09;0.12)
1988	0.05	0.1
	(0.02;0.07)	(0.08;0.11)

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**Table E.6:** regression of House vote on ideological and party ID, simultaneously (*continued*)

	Ideological ID	Party ID
1992	0.05 (0.03;0.07)	0.11 (0.09;0.12)
1996	0.03 (0;0.06)	0.13 (0.12;0.15)
2000	0.06 (0.02;0.09)	0.11 (0.08;0.14)
2004	0.03 (0;0.06)	0.13 (0.11;0.15)
2008	0.06 (0.04;0.08)	0.13 (0.12;0.15)
2012	0.04 (0.02;0.07)	0.14 (0.12;0.16)
2016	0.05 (0.02;0.07)	0.13 (0.11;0.15)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.7:** regression of House vote on ideological and party ID, including covariates

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	Ideological ID	Party ID
1972	0.03 (0.01;0.05)	0.11 (0.1;0.13)
1976	0.05 (0.02;0.07)	0.1 (0.08;0.11)
1980	0.03 (0;0.06)	0.08 (0.06;0.11)
1984	0.03 (0.01;0.06)	0.1 (0.08;0.11)
1988	0.04 (0.02;0.07)	0.08 (0.07;0.1)
1992	0.05 (0.03;0.07)	0.09 (0.08;0.11)
1996	0.04 (0.01;0.07)	0.12 (0.11;0.14)
2000	0.04 (0;0.08)	0.11 (0.08;0.14)
2004	0.04 (0.01;0.07)	0.1 (0.08;0.12)
2008	0.06 (0.03;0.08)	0.12 (0.11;0.14)

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**Table E.7:** regression of House vote on ideological and party ID, including covariates (*continued*)

	Ideological ID	Party ID
2012	0.06 (0.03;0.08)	0.12 (0.1;0.14)
2016	0.04 (0.02;0.07)	0.12 (0.1;0.14)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects and controls.

**Table E.8:** Comparing different estimation strategies for the association between House vote and ideological and party ID

	Ideological ID	Party ID
Simple difference in differences	0.15 (0.14;0.16)	0.14 (0.13;0.14)
Difference in differences (including both)	0.05 (0.04;0.06)	0.12 (0.11;0.12)
Difference in differences (including covariates)	0.05 (0.04;0.05)	0.11 (0.11;0.12)
Two-stage least squares	0.03	0.07

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**Table E.8:** Comparing different estimation strategies for the association between House vote and ideological and party ID (*continued*)

	Ideological ID	Party ID
	(0.02;0.03)	(0.06;0.07)
Lasso	0.04	0.11
	(0.04;0.05)	(0.11;0.12)

Source: ANES cumulative data file.

95% confidence intervals shown in parentheses.

All models include state and year fixed effects.

### E.3 Senate Vote

**Table E.9:** regression of Senate vote on ideological and party ID, separately

	Ideological ID	Party ID
1980	0.11	0.13
	(0.08;0.14)	(0.12;0.15)
1984	0.1	0.13
	(0.07;0.13)	(0.12;0.14)
1988	0.14	0.12
	(0.11;0.16)	(0.11;0.14)
1992	0.15	0.12
	(0.13;0.17)	(0.11;0.13)
1996	0.19	0.16

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**Table E.9:** regression of Senate vote on ideological and party ID, separately (*continued*)

	Ideological ID	Party ID
	(0.17;0.22)	(0.14;0.17)
2000	0.13	0.14
	(0.09;0.16)	(0.12;0.16)
2004	0.19	0.15
	(0.16;0.22)	(0.13;0.17)
2008	0.15	0.15
	(0.13;0.18)	(0.13;0.16)
2012	0.18	0.15
	(0.16;0.2)	(0.14;0.16)
2016	0.19	0.16
	(0.17;0.21)	(0.14;0.17)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.10:** regression of Senate vote on ideological and party ID, simultaneously

	Ideological ID	Party ID
1980	0.02	0.13
	(-0.01;0.05)	(0.11;0.15)

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**Table E.10:** regression of Senate vote on ideological and party ID, simultaneously (*continued*)

	Ideological ID	Party ID
1984	0.01 (-0.02;0.04)	0.13 (0.11;0.14)
1988	0.05 (0.02;0.07)	0.11 (0.09;0.12)
1992	0.07 (0.04;0.09)	0.1 (0.08;0.11)
1996	0.07 (0.04;0.1)	0.13 (0.11;0.15)
2000	0.03 (-0.01;0.06)	0.13 (0.11;0.16)
2004	0.07 (0.03;0.1)	0.12 (0.1;0.14)
2008	0.02 (0;0.05)	0.13 (0.11;0.15)
2012	0.05 (0.02;0.07)	0.13 (0.11;0.15)
2016	0.08 (0.05;0.11)	0.12 (0.1;0.14)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.11:** regression of Senate vote on ideological and party ID, including covariates

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	Ideological ID	Party ID
1980	0.01 (-0.02;0.05)	0.1 (0.07;0.12)
1984	0 (-0.03;0.03)	0.09 (0.07;0.12)
1988	0.03 (0;0.06)	0.09 (0.07;0.11)
1992	0.04 (0.01;0.06)	0.06 (0.04;0.08)
1996	0.04 (0.01;0.07)	0.09 (0.06;0.12)
2000	-0.01 (-0.05;0.04)	0.11 (0.07;0.14)
2004	0.03 (0;0.07)	0.06 (0.03;0.09)
2008	0.02 (-0.01;0.04)	0.09 (0.06;0.11)
2012	0.02 (0;0.05)	0.08 (0.05;0.1)
2016	0.03 (0;0.06)	0.06 (0.03;0.09)

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**Table E.11:** regression of Senate vote on ideological and party ID, including covariates (*continued*)

	Ideological ID	Party ID
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Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects and controls.

**Table E.12:** Comparing different estimation strategies for the association between Senate vote and ideological and party ID

	Ideological ID	Party ID
Simple difference in differences	0.16 (0.15;0.17)	0.14 (0.14;0.15)
Difference in differences (including both)	0.05 (0.04;0.06)	0.12 (0.12;0.13)
Difference in differences (including covariates)	0.05 (0.04;0.06)	0.11 (0.11;0.12)
Two-stage least squares	0.03 (0.02;0.04)	0.06 (0.06;0.07)
Lasso	0.05 (0.04;0.06)	0.12 (0.11;0.12)

Source: ANES cumulative data file.

95% confidence intervals shown in parentheses.

All models include state and year fixed effects.

## E.4 Gubernatorial Vote

**Table E.13:** regression of gubernatorial vote on ideological and party ID, separately

	Ideological ID	Party ID
1972	0.09 (0.05;0.13)	0.13 (0.11;0.15)
1976	0.11 (0.06;0.16)	0.11 (0.09;0.14)
1980	0.09 (0.03;0.16)	0.13 (0.09;0.17)
2012	0.18 (0.12;0.24)	0.14 (0.1;0.18)
2016	0.25 (0.18;0.33)	0.17 (0.14;0.2)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.14:** regression of gubernatorial vote on ideological and party ID, simultaneously

	Ideological ID	Party ID
1972	0.02	0.13

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**Table E.14:** regression of gubernatorial vote on ideological and party ID, simultaneously (*continued*)

	Ideological ID	Party ID
	(−0.01;0.05)	(0.11;0.15)
1976	0.05	0.1
	(−0.01;0.1)	(0.07;0.13)
1980	0.02	0.13
	(−0.05;0.08)	(0.08;0.17)
2012	0.07	0.1
	(−0.02;0.15)	(0.04;0.16)
2016	0.1	0.13
	(0.03;0.17)	(0.09;0.17)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects.

**Table E.15:** regression of gubernatorial vote on ideological and party ID, including covariates

	Ideological ID	Party ID
1972	0.02	0.12
	(−0.01;0.05)	(0.1;0.14)
1976	0.04	0.11
	(−0.02;0.1)	(0.08;0.14)

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**Table E.15:** regression of gubernatorial vote on ideological and party ID, including covariates  
(continued)

	Ideological ID	Party ID
1980	-0.01 (-0.09;0.07)	0.11 (0.06;0.15)
2012	0.1 (0;0.19)	0.08 (0.03;0.14)
2016	0.03 (-0.06;0.12)	0.16 (0.09;0.23)

Source: ANES cumulative data file.

Survey-consistent robust 95% confidence intervals shown in parentheses.

All models include state fixed effects and controls.

**Table E.16:** Comparing different estimation strategies for the association between gubernatorial vote and ideological and party ID

	Ideological ID	Party ID
Simple difference in differences	0.12 (0.1;0.15)	0.13 (0.12;0.14)
Difference in differences (including both)	0.04 (0.01;0.07)	0.12 (0.1;0.13)
Difference in differences (including covariates)	0.04	0.12

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**Table E.16:** Comparing different estimation strategies for the association between gubernatorial vote and ideological and party ID (*continued*)

	Ideological ID	Party ID
	(0.01;0.07)	(0.1;0.13)
Two-stage least squares	0.03	0.08
	(0.01;0.05)	(0.07;0.09)
Lasso	0	0.12
	(0;0.05)	(0.11;0.14)

Source: ANES cumulative data file.

95% confidence intervals shown in parentheses.

All models include state and year fixed effects.

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