

## **Contextual Sources of Ambivalence**

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*When will people become ambivalent about politics? One possibility is that the roots of ambivalence lie within the individual, with differences in political knowledge and attitude strength predicting whether a person internalizes the conflicts of politics. Alternately, attitudinal ambivalence could result from structural differences in the way political choices are presented in the wider political environment. We explore the degree to which different environments promote or limit ambivalence using a matching approach in conjunction with a set of multilevel models. We find that campaign environments can induce candidate ambivalence. In presidential elections, campaign efforts promote ambivalence most when competition between partisan campaign efforts is high. In House elections, campaign spending has a direct effect on levels of candidate ambivalence, where a candidate's spending decreases ambivalence about that candidate and increases ambivalence about opponents.*

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When faced with competing arguments in politics, some will immediately take one side of the debate. For others, the decision is harder to make. Seeing merit in both sides of the argument, these individuals have difficulty deciding where they stand. If a person is unable to resolve his or her competing interests, the consequence is attitudinal ambivalence. Those who are ambivalent require more time to make political decisions, and their resulting choices will be less predictable and less stable (Alvarez & Brehm, 2002; Lavine, 2001). Ambivalence can also lead to moderation in evaluations (Meffert, Guge, & Lodge, 2004) and influence how issues are used in candidate appraisals (Basinger & Lavine, 2005; Craig, Martinez, Kane, & Gainous, 2005; Lavine, 2001).

Despite widespread evidence that ambivalence matters to a number of political outcomes, we have only a limited sense of what causes this kind of attitudinal conflict. The roots for ambivalence are often assumed to be individually based, driven by factors such as attitude strength or political knowledge. It is quite possible, however, that attitudinal ambivalence reflects not only one's individual propensity to internalize competing claims, but also the prevalence of opposing arguments in the political environment.

It is important to understand the roots of ambivalence not only for the numerous consequences for political decision making, but also because of the normative implications of this kind of internalized conflict. Ambivalence has both desirable and undesirable properties. On one hand, the ambivalent citizen may make decisions of a lesser quality. Unable to reconcile competing interests, ambivalent voters might make their decision on secondary considerations such as candidate appearance rather than on substantive issues where reactions are mixed. The conflict caused by ambivalence can also discourage political involvement and activism (Mutz, 2002). But at the same time, ambivalence also suggests openness. Those who easily take a position in an issue debate are less likely to be reflective in their decision making and resist consideration of relevant evidence. Those who are ambivalent are more likely to see the complexity in political debates and more likely to be balanced and even-handed in decision making (Green, Visser, & Tetlock, 2000).

The sources of opinion instability and ambivalence are often seen as rooted in individuals. But perhaps different political contexts promote or diminish the internalization of competing claims. Here, we explore the contextual sources of internalized conflict. Using survey data from the 2000 American National Election Study combined with measures of state context, we investigate whether ambivalence is simply a reflection of individual characteristics, or if the nature of the political environment also promotes the internalization of political conflict. We use a multilevel modeling strategy and matching models to explore the contextual factors that contribute to ambivalence in evaluations of presidential and congressional candidates. We test explanations tied to campaign spending, considering how the number and kind of political messages contribute to the internalization of competing arguments. We also explore the effects of social forces and how patterns of political discussion and partisan diversity in the states influence levels of attitudinal ambivalence. We find that while individual level differences such as attitude strength affect ambivalence levels, so does the nature of one's campaign environment.

### **The Nature of Ambivalence**

Ambivalence represents the internal conflict between contradictory sentiments about the same object or issue, where ambivalent voters understand the sides of a dispute, but are unable to resolve their competing interests. While other

explanations of opinion instability have included measurement error (Achen, 1975) or low levels of political information, ambivalence is a cause of instability rooted in the inherent conflict of politics.

Studies have explored ambivalence in attitudes about issues from abortion (Alvarez & Brehm, 2002; Craig, Kane, & Martinez, 2002) to campaign finance reform (Rudolph, 2005) to social welfare (Feldman & Zaller, 1992) to gay rights (Steenbergen & Brewer, 2004; Craig, et al., 2005). Others investigate the prevalence and consequences of ambivalence in candidate evaluations (Lavine, 2001; McGraw, Hasecke, & Conger, 2003; Meffert, Guge, & Lodge, 2004), partisanship (Keele & Wolak, 2006), and attitudes about government (McGraw & Bartels, 2005). While debates remain about the true extent of ambivalence in American public opinion (Jacoby, 2005; Steenbergen & Brewer, 2004), it is clear that ambivalence can underlie a range of different kinds of political opinions.

While previous research has investigated the extent and consequences of this kind of internalized conflict, less is known about what causes attitudinal ambivalence. Most of the work that informs the sources of ambivalence speaks to only its most immediate causes—the kinds of elements that come into conflict to define ambivalence. One kind of ambivalence reflects competing core values (Alvarez & Brehm, 2002; Keele & Wolak, 2006; Steenbergen & Brewer, 2004). Ambivalence can also arise from disagreement between recalled considerations (Basinger & Lavine, 2005), group evaluations (Lavine & Steenbergen, 2005), appraisals of candidate traits (Meffert, Guge, & Lodge, 2004), or emotional reactions (Lavine, Thomsen, Zanna, & Borgida, 1998).

Rudolph and Popp (2007) explore some of the individual-level roots of candidate ambivalence, finding that those with greater education and higher need for cognition report greater ambivalence, while those with strong partisan priors report less ambivalence. Steenbergen and Brewer (2004) investigate the demographic and ideological sources of value-driven issue ambivalence. They find that strength of ideology and political knowledge typically depress ambivalence. Levels of ambivalence also relate to race, age, partisanship, and ideology, while gender, income, education, and religious fundamentalism are weak predictors of ambivalence. A few studies also suggest a role for the political context in promoting or limiting attitudinal ambivalence. Rudolph (2005) finds that ambivalence can be limited if people are given cues about favored or disliked groups when making evaluations. The diversity of messages in one's social context can promote ambivalence—where those who talk to more people with different preferences are more likely to hold competing considerations about issues and candidates (Huckfeldt, Mendez, & Osborn 2004; Mutz, 2002).

### **Context Induced Ambivalence**

While one's propensity to become ambivalent depends in part on individual characteristics, we argue that the occurrence of ambivalence will also depend on

the political environment. Political contexts vary. At times, political information is plentiful, while at other times, political information is scarce. For example, the saturation of political messages is much greater during a presidential election year than in off years. As the amount and range of electoral information increases, we would expect attitudinal ambivalence to climb. The quantity and diversity of messages also vary across regions. Some environments expose people to messages from both sides, while other environments are more homogenous. Residents of battleground states see more campaign ads and candidate appearances than those who live in noncompetitive states. Not only do battleground residents see more information, but this information is also more likely to be two-sided with campaign efforts from both Republican and Democratic candidates. Thus it seems likely that the degree to which people are ambivalent about politics will depend in part on the quantity and character of messages in one's political environment.

We focus on the contextual sources of ambivalence during campaign seasons. The possible routes by which campaign environments induce ambivalence are several. First, one of the reasons why candidates invest resources in battleground states is the nature of the states themselves. Battlegrounds are states that have close-partisan balances, where neither Democratic nor Republican voters dominate the electorate. One consequence of living in an environment with this kind of partisan diversity is exposure to alternative arguments through political discussion. As Beck, Dalton, Greene, and Huckfeldt (2002) highlight, social influences are potent forces in people's electoral decision making. Living in a homogenous environment, surrounded by others who are politically like-minded, can result in information flows that are mostly one-sided. Heterogeneous environments expose citizens to more opposing messages. Political disagreement can also promote ambivalence through the incentives it offers to gather additional political information. The desire to defend of one's viewpoint in political discussion can promote information seeking (Krassa, 1990) and increase the range and diversity of considerations people possess. With greater information, the potential for ambivalence will increase. Thus, the greater the frequency with which one talks about politics with those opposing preferences, the greater ambivalence we expect.

A second way that presidential campaign environments might prompt candidate ambivalence is through the content and balance of elite messages. In presidential battleground states, both Democratic and Republican candidates buy ads and make appearances. In other states, candidate spending is more lopsided. In 2000, for instance, Republicans aired many more ads in Virginia than Democrats, while presidential ads and visits in Michigan were similar in number for both the Bush and Gore campaigns. While one-sided information environments promote consensus and can facilitate persuasion, two-sided information environments promote debate and consideration (Beck et al., 2002; Zaller, 1992). The combination of intense Democratic and Republican campaign efforts over the same geography presents a distinct two-sided information environment that could promote the internalization of arguments from both sides.

In presidential elections, we expect the combination of competing elite messages to promote ambivalence. We also consider whether this prediction holds in the case of congressional elections, where the campaign environment is quite different. Presidential races not only have more advertising, but they are also more likely to invade water cooler conversations and receive both national and local media attention. House races receive much less scrutiny from not only the media, but also voters. Campaign information can be more difficult to encounter and levels of voter knowledge of House candidates are substantially lower (Jacobson, 2003). While under 15% of respondents in the 2000 ANES fail to name something they like or dislike about the presidential candidates, nearly 50% do not offer a comment about the House candidates. The campaign atmosphere is also different in congressional races, as House races tend to be less competitive. While 45% of states are considered solid Democratic or Republican states on the Cook Political Report rating of presidential competitiveness, 80% of House races are rated similarly uncompetitive on the Cook measure of congressional competition. Considering ambivalence about not only presidential candidates but also House candidates informs whether competing campaign messages promote ambivalence in a different political environment, defined by a lower level of voter information and a distinctive electoral context.

### Research Design

We explore whether the political context exerts any influence over the level of ambivalence. We surmise that citizens that find themselves in heterogeneous contexts may exhibit higher levels of presidential candidate ambivalence. The simplest analysis would be to simply regress a measure of ambivalence on an indicator for a heterogeneous context along with a set of control variables. But one can imagine that any correlation between residence in a battleground state and ambivalence could be simply a reflection of the inherent differences between competitive and noncompetitive presidential states. Perhaps presidential candidates visit states like Florida, Ohio, and Pennsylvania because they are populated by conflicted, ambivalent voters. If this is so, any regional differences in candidate ambivalence may have less to do with the density and balance of campaign messages, ads, and visits than the inherent differences in the composition of battleground and nonbattleground states. A randomized experiment would, of course, be the optimal research design. Randomization could be used to eliminate differences across states, but such a design would require randomly assigning subjects to live in battleground and nonbattleground states during an election cycle. Instead, we use matching as an alternative to a regression-based analysis. Matching provides for an analysis that more closely resembles an experiment with observational data. Below, we explain the logic and process of matching.

We are interested in estimating the following realized causal effect:

$$(\text{Realized causal effect for unit } i) = y_i(1) - y_i(0) \quad (1)$$

This is the difference between a unit that receives a treatment,  $t = 1$ , and a unit that does not receive a treatment,  $t = 0$ . It is possible that other factors besides the treatment may cause the units to differ on  $y_i$ . We define  $\mathbf{X}$  as a matrix of all the measured and unmeasured factors besides the treatment that might cause the control and treatment groups to differ on the outcome  $y_i$ . If any of the elements of  $\mathbf{X}$  are omitted from a statistical model that estimates the treatment effect, the estimate of the treatment effect will be biased. Only if the treatment and  $\mathbf{X}$  are uncorrelated can we estimate the effect of the treatment with little fear of bias.

In an experiment, randomization helps to ensure that the treatment and  $\mathbf{X}$  are uncorrelated.<sup>1</sup> Matching attempts to mimic the logic of randomized experiments. If we can adjust the data such that the treatment is now independent of  $\mathbf{X}$ , we will have moved much closer to the estimation of causal effects. With matching, one processes the data before the estimation of the treatment effects to reduce the relationship between  $\mathbf{X}$  and the treatment with as little loss of efficiency as possible. How can this be done? The key is to select not on the dependent variable, but on the explanatory variables. That is, we match cases that have received the treatment to those cases that are identical in all other respects that we can measure except that they have not received the treatment. Cases without matches are discarded, and we use the new matched data to estimate the effect of the treatment. No matter what effect measured elements of  $\mathbf{X}$  may have on  $y_i$ , we can ignore them since  $\mathbf{X}$  is held constant within each set of paired cases. Next, we outline the basic process of a matching analysis.

First, we select a set of variables that would normally operate as control variables in a regression framework, as we want to include all variables that might affect both the treatment assignment and the dependent variable. Variables that could be caused by the treatment variable must be excluded from this set of variables (Ho, Imai, King, & Stuart, 2007). One then uses a matching procedure to match treated and control cases on the values of the  $\mathbf{X}$  variables. One then must evaluate the matching procedure for balance, to see if the distributions of the control and treatment groups are identical across the measured variables in  $\mathbf{X}$ . If the treatment and control groups are balanced, one then estimates a parametric model between the outcome variable,  $y_i$ , and the treatment variable. This may be as simple as a difference of means test, but can also be a regression model that includes control variables that are also thought to directly affect the outcome of interest.

<sup>1</sup> Of course this is not always true, which is why stratification is often used in the experimental design or an ANCOVA model is estimated.

We next describe how we apply the matching paradigm to our research application. We first have to define the treatment and control for our research question. Here, we define the treatment group as those who experience a heterogeneous context. We next select a set of covariates on which to balance. We then match respondents in the treatment group to respondents in the control group. After matching, we test for balance to ensure that the distributions of the control and treatment groups are identical across the covariates on which we have matched. While matching is superior to more standard regression techniques in speaking to concerns of causality, it is still not a randomized experiment. With a randomized experiment, we balance the treatment and control on both observed and unobserved elements of  $\mathbf{X}$ . With matching, we can only balance on observed elements of  $\mathbf{X}$ . Unlike a regression model, however, we relax the functional form assumption and avoid pretesting the data in a search for the right combination of variables that return a statistically significant finding.

Once we complete the balance diagnostics, we can estimate two quantities. The first is the average treatment effect (ATE). To define the ATE, let  $Y_{it}$  represent the outcome for unit  $i$  if it receives the treatment and  $Y_{ic}$  represents the outcome if unit  $i$  is in the control group. The effect of the treatment is defined as:  $\delta = Y_{it} - Y_{ic}$ . Of course, we never observe both  $Y_{ic}$  and  $Y_{it}$  for a single unit. As such, we let  $T_i$  be a treatment indicator that is 1 when unit  $i$  is in the treatment group and 0 otherwise. The outcome we observe for any unit  $i$  is:

$$Y_i = T_i Y_{it} + (1 - T_i) Y_{ic} \quad (2)$$

When the assignment of treatment and control is balanced across the observed values of  $\mathbf{X}$ , the treatment and control groups are exchangeable and we can write the ATE as follows:<sup>2</sup>

$$\begin{aligned} \delta &= E(Y_{it} | T_i = 1) - E(Y_{ic} | T_i = 0) \\ &= E(Y_i | T_i = 1) - E(Y_i | T_i = 0) \end{aligned} \quad (3)$$

The ATE then is just the average difference across the control and treatment groups for the outcome  $Y_i$ . While we are often interested in the ATE, the average treatment effect on the treated, or ATT, is typically of greater interest. The ATT gauges the size of the treatment effect for those individuals who are either assigned or who would assign themselves to the treatment. In other words, the ATT is the effect of the treatment when actually applied. More formally, if we condition on

<sup>2</sup> A more thorough definition of this assumption is the Stable Unit Treatment Value assumption typically referred to as SUTVA (Holland, 1986; Rubin, 1978). For SUTVA to hold, the treatment for any unit must be independent of potential outcomes for all other units and the treatment must be defined identically for all units. The SUTVA assumption is required in both experimental settings as well as when using matching.

observed covariates  $\mathbf{X}_i$  and achieve balance, following Rubin (1974, 1978) the ATT is estimated as:

$$\delta|T = 1 = E[E(Y_i|\mathbf{X}_i, T_i = 1) - E(Y_i|\mathbf{X}_i, T_i = 0)|T_i = 1] \quad (4)$$

Here, we exclusively report the ATT, since our interest is in those respondents that were actually in a heterogeneous context.

### Data and Matching Analysis

We use survey responses from the 2000 American National Election Study for our analysis. To measure ambivalence, we use an adaptation of the Griffin index (Thompson & Griffin, 1995) proposed by Basinger and Lavine (2005).

$$\text{Ambivalence}_{comp} = \frac{D + R}{2} - |D - R| \quad (5)$$

D is the average of positive evaluations of the Democratic candidate and negative reactions to the Republican candidate, while R is the average of positive comments about the Republican and negative remarks about the Democrat. The Griffin index captures both conflicting sentiments and the intensity of these preferences, while the Basinger and Lavine formulation adapts this formula to a two-candidate electoral environment. In the 2000 ANES respondents were asked to name their likes and dislikes about the presidential candidates and House candidates. Respondents name up to five aspects they like and five things they dislike about each candidate. We use these items to construct the ambivalence scale.

To assess contextual heterogeneity, we use measures of the competitiveness of presidential and house campaigns. The Cook Report rates the level of competitiveness for races at the state level for presidential elections and at the district level for House races on a 7-point scale from a strong Democratic advantage to a toss-up race to a strong Republican seat. To measure context in the matching analysis, we designated those respondents who were in toss up geographic regions as the treatment group, while other respondents were designated as a control group. While our treatment indicator allows us a clear cut-off to distinguish competitive and noncompetitive campaign environments, it has obvious limits. This measure does not allow us to parse whether ambivalence is due to social discussion, elite messages, or some other factor. We test these specific causes in the next section using multilevel models.

We next select a set of measured characteristics to match on. In theory, we should match on all measured characteristics in the ANES. Even if a particular variable is not related to our outcome, the level of ambivalence, it may be correlated with some other variable that is. Consequently, we adopt a fairly kitchen sink set of covariates to match on. To avoid posttreatment bias, however, we should not



match on any variables that might be affected by the treatment. To that end, we match on a wide variety of respondent characteristics. These variables are: age, education, income, gender, race, party identification, ideology, homeownership, union membership, region, and religion.

We do not match on variables such as issue positions due to the possibility that they will be affected by the treatment. We also do not match on variables that might directly affect ambivalence such as values, strength of political predispositions, or value conflict for the same reason. Instead, we include these measures in at the estimation stage. Once we have a matched dataset, we regress our measure of ambivalence on the treatment indicator and a set of control variables, including strength of partisanship, strength of ideology, core values, and value conflict.<sup>3</sup> As Ho et al. (2007) note, by first matching and then using a relevant set of controls the model is doubly robust. That is, if either the matching or the regression model is correct, but not both, the estimate will still be consistent.

### *Balance*

There are a number of matching procedures. Here, we use genetic matching (Sekhon, 2007; Sekhon & Diamond 2005), since it is the only matching procedure that matches based on measures of balance.<sup>4</sup> In general, the matching procedure used matters little if one achieves balance. The matching does cause us to use a more restricted sample. In the 2000 NES, we classified 518 respondents as living in battleground states by our measure. Once missing values are taken into account we have 276 respondents in the treatment group. We find matches for all 276 cases giving us a sample size of 552. While we would prefer a larger sample size, so long as the data are balanced, the loss of sample size will be a loss of efficiency making it harder for us to find statistically significant effects. As one might expect, this is a mean squared error problem as we might be reducing the bias by matching but increasing the variance. Our next multilevel analysis, however, will use the full sample size. This allows us to examine the effect in one context where the bias should be minimal but the variance might be inflated. In the next context, we might observe some bias, but the variance should be reduced.

<sup>3</sup> Strength of partisanship and ideology are measured as folded versions of the traditional 7-point partisan and ideological scales in the ANES. We also control for value orientations including moral traditionalism, limited government, and egalitarianism. We use these survey items to create value scales, rescale these measures from -1 to 1, and then create interactions between moral traditionalism and egalitarianism and also egalitarianism and limited government.

<sup>4</sup> With other matching procedures, such as with propensity scores, the data are matched on a set of variables using a distance criterion such as a Mahalanobis distance, and then the analyst checks for balance. Genetic matching uses a genetic search algorithm to match based on measures of balance such as t-tests and Kolmogorov-Smirnov (KS) tests. Since genetic matching matches based on a balance criteria, it is more likely to return a balanced data set.

**Table 1.** Estimated Effect of Competitive Presidential and House Race Context

	ATT	Stand. Err.
Presidential Ambivalence	0.24	(0.10)
House Cand. Ambivalence	0.04	(0.08)

To assess balance, we compared the control group from nonbattleground states to the treatment group from battleground states.<sup>5</sup> We compared the two groups using empirical CDFs and Q-Q statistics, t-tests, and bootstrapped Kolmogorov-Smirnov (KS) tests. We found that the genetic matching algorithm balanced the data with little trouble.<sup>6</sup>

### *Results*

Table 1 contains the ATT estimates for the effect of being in a highly competitive context for the 2000 presidential election. For a respondent in a highly competitive presidential election context, he or she would be about one-quarter point higher on the ambivalence scale than a voter who was identical in all respects but was in a less competitive presidential election context. For the House races, we find no effect. Those respondents in districts with a competitive race were no more ambivalent than respondents in districts with noncompetitive races.

Given that we have fairly crude measures of context and that we lose a significant number of cases, to find any effect at all is fairly impressive. It would appear then that citizens living in battleground states where the bulk of presidential campaigning efforts are focused are significantly more ambivalent than nearly identical respondents in nonbattleground states. We next turn to a more traditional analysis to further substantiate our theory.

### **Multilevel Modeling of Presidential Candidate Ambivalence**

In our matching analysis, we found evidence that context affects levels of ambivalence. To make our case stronger, we adopt a multimethod research design, looking for confirmatory findings with different statistical techniques. Next, we use multilevel modeling, a technique for studying how context affects individual

<sup>5</sup> Since we have quite a few more control units than treated units, we also used two-to-one matching. Here, if possible, two control units are matched to each treated unit. We found this did not change the results.

<sup>6</sup> Sekhon and Diamond (2005) report that the bootstrapped KS test is a more conservative test of balance than the paired t-tests often used to assess balance. We also applied propensity score matching to match respondents. We had greater difficulty finding balance with propensity scores. As such we only report treatment effects for the data matched with the genetic matching procedure.

level decisions and attitudes (Steenbergen & Jones, 2002). In a multilevel model, one needs to specify a model at first the individual level, referred to as the level-1 model. Then a second model that represents contextual factors is specified as the level-2 model. This framework allows the analyst to then test whether the contextual factors operate on the individual level outcomes. We start by defining the individual or level-1 model:

$$\begin{aligned} \text{Ambivalence}_{ij} = & \beta_{0j} + \beta_{j1}\text{StrengthOfPartisanship}_{ij} \\ & + \beta_{j2}\text{CaresAboutElection}_{ij} + \beta_{j3}\text{PoliticalKnowledge}_{ij} \\ & + \beta_{j4}\text{Education}_{ij} + \beta_{j5}\text{NeedForCognition}_{ij} \\ & + \beta_{j6}\text{NeedToEvaluate}_{ij} + \beta_{j7}\text{OpposingDiscussion}_{ij} \\ & + \beta_{j8}\text{SameDiscussion}_{ij} + e_{ij} \end{aligned} \quad (6)$$

At the individual level, we control for strength of priors, information levels, and variations in cognitive style. We consider the role of prior preferences with two measures—strength of partisanship, measured as a folded version of the traditional 7-point partisanship scale, and concern about the election, measured as a dichotomous indicator of whether the respondent cares who wins the presidential election. We expect those with strong priors to be less ambivalent about the presidential candidates.

Next, we consider political awareness and informedness, expecting that those inattentive to politics and uninformed about issues and candidates will be unlikely to internalize enough claims to generate conflict. As Price and Zaller (1993) note, self-reports of political exposure are not the best measure of the reception of political messages. Instead, we use measures of education and political knowledge as indicators of political exposure. These factors are an important part of how people internalize political arguments—as those with a weak base of political knowledge find it more difficult to assimilate new information. Education is measured as a 7-point scale of educational attainment. Political knowledge is measured as a 7-point scale summing correct responses to factual questions about politics.<sup>7</sup> We expect greater ambivalence among those with greater political knowledge. We also include a measure of cognitive style, using two items to assess need for cognition.<sup>8</sup> As Rudolph and Popp (2007) note, those with a greater need for cognition will be more likely to engage in the kinds of effortful information seeking that produce ambivalence.

<sup>7</sup> The questions included identifying the positions held by Trent Lott, William Rehnquist, Tony Blair, and Janet Reno, as well as identifying which political party held majority control in the House and the Senate.

<sup>8</sup> We rely on two questions, one that asks if the respondent prefers to solve simple or complex problems, and one that asks if the respondent likes to have responsibility for situations that require a great deal of thinking. These are each rescaled from 0 to 1 and then averaged to create our need for cognition measure.

We also include a measure of opinionation, reflecting how opinionated the respondent sees himself or herself.<sup>9</sup> Rudolph and Popp (2007) find that those who offer more opinions about the presidential candidates report greater levels of ambivalence.

We also include measures of diversity in social context. First, we consider how frequently a person reports discussing politics with individuals who support a different presidential candidate, Opposing discussion<sub>ij</sub>. We sum rates of discussion with like-minded partisans to create a second measure, Same Discussion<sub>ij</sub>.<sup>10</sup> We expect that conversation with those of opposing preferences will elicit more two-sided arguments and promote ambivalence, while frequent discussion with those who support the same presidential candidate will limit the occurrence of ambivalence.

With the level-2 model, we can model the individual level constant,  $\beta_{0j}$ , which represents the average level of ambivalence after controlling for individual level factors as a function of contextual indicators of heterogeneity in the following way:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\text{PartisanDiversity}_j + \gamma_{02}\text{RepublicanAds}_j + \gamma_{03}\text{DemocraticAds}_j + \gamma_{04}\text{Republican} * \text{DemocraticAds}_j + u_{0j} \quad (7)$$

In the level-2 model, we specify the average level of ambivalence as a function of state partisan diversity and the balance of partisan ad spending. The term  $u_{0j}$  represents a random effect across states and is more formally:  $u_{0j} \sim N(0, \sigma^2)$ .

Partisan diversity reflects whether the distribution of voter partisanship is homogenous or heterogenous in a state. Using state estimates of partisanship (Erikson, Wright, & McIver, 1993), we construct a Herfindahl index reflecting the concentrations of Democrats, Republicans, and Independents within each state.<sup>11</sup> Higher values of this measure indicate the most diverse states, while low values of this indicator indicate states that are largely Democratic or Republican. We expect that those who live in heterogenous states will be more likely to encounter opposing arguments that produce ambivalence.

To measure the allocation of presidential campaign resources, we rely on measures of television advertising buys (Shaw, 2006). Because the costs of advertising vary across media markets, ad expenditures by the presidential candidates and parties are converted to a measure of gross rating points (GRPs in thousands)

<sup>9</sup> This is measured by two items. One asks the respondent how opinionated he or she is compared to the average person, while the other asks about whether the person holds opinions about many topics or few. These are rescaled from 0 to 1 and then averaged to create a measure of opinionation.

<sup>10</sup> Respondents are asked to name up to four individuals with whom they discuss politics. They are then asked how often they discuss politics with these individuals, and who they thought these individuals supported in the presidential election. The measure of opposing discussion sums the frequency of discussion with each person who supports a different candidate than the respondent.

<sup>11</sup> The Herfindahl index is a measure of concentration, where the share of each partisan group is squared, then summed, and then subtracted from 1.

that is comparable across regions. We first consider whether the total amount of ad spending contributes to ambivalence, considering the sum of Democratic and Republican ad spending by both the presidential candidates and political parties. Next, we consider the effects of Republican ad buys, Democratic ad buys, and the interaction of Republican and Democratic ad purchases to see whether the simultaneous presence of Democratic and Republican advertising in particular promotes ambivalence. When spending on Democratic and Republican ads are both high, values of this interaction are higher and represent geographic contexts with higher amounts of opposing political messages. When one or both of these ad spending measures is low, this results in lower scores on the opposing ads interaction and represents a geographic context with few opposing political messages. As values of the opposing ads measure increase, so too should the average level of ambivalence.

### *Results*

In exploring the effects of context on presidential candidate ambivalence, we consider four specifications. First, we consider whether the total volume of presidential ads contributes to levels of ambivalence. Second, we consider whether two-sided message flows and the simultaneous presence of ads from both parties contribute to ambivalence. Finally, we examine the consequences of ad spending for specific ambivalence about the Democratic candidate and the Republican candidate. We measure ambivalence about individual candidates using the Griffin index (Thompson & Griffin, 1995).

We present the results from the estimated multilevel models in Table 2. Among the individual level explanations, we find that those with strong partisan priors and those concerned about the election outcome are less likely to report candidate ambivalence, while those with greater education and higher need for cognition are more likely to report ambivalence.

We also find that one's political context relates to his or her level of ambivalence, illuminating potential mechanisms of influence for the battleground differences we find in the matching model. First, social discussion can contribute to or limit levels of ambivalence, depending on the homogeneity of preferences among one's discussion partners. Those who frequently talk about politics with people who favor the same presidential candidate are less likely to be ambivalent about the candidates, while those who often discuss politics with those of opposing preferences are more likely to be internalize competing arguments. Besides the variety of preferences in one's immediate discussion network, the general partisan diversity of a state also contributes to ambivalence. People in states of high partisan heterogeneity report greater levels of ambivalence about the presidential candidates.

Turning next to the effects of presidential ad spending, we find no effect for the simple volume of presidential ads. But when we consider the balance of ads in the states, we find that the simultaneous presence of a high number of Democratic

**Table 2.** Multilevel Models of Contextual Sources of Presidential Candidate Ambivalence

	Comparative	Comparative	Democratic	Republican
<i>Fixed Effects</i>				
State partisan diversity	1.692* (1.001)	1.661* (1.509)	-0.125 (1.304)	0.663 (1.110)
Total presidential ad buys	0.0004 (0.001)	-	-	-
Republican ad buys	-	0.009 (0.101)	0.026* (0.013)	0.010 (0.015)
Democratic ad buys	-	-0.022 (0.158)	-0.046* (0.020)	-0.021 (0.021)
Republican × Democratic ad buys	-	0.001* (0.001)	0.002* (0.001)	0.001 (0.001)
Partisanship	-	-	-0.003 (0.014)	0.015 (0.014)
Strength of partisanship	-0.196* (0.023)	-0.194* (0.054)	-	-
Cares about election	-0.311* (0.036)	-0.313* (0.037)	-0.321* (0.057)	-0.380* (0.046)
Political knowledge	-0.011 (0.021)	-0.010 (0.021)	-0.015 (0.020)	-0.043* (0.021)
Education	0.074* (0.016)	0.073* (0.016)	0.061* (0.018)	0.061* (0.022)
Need for cognition	0.211* (0.094)	0.207* (0.095)	0.300* (0.085)	0.133 (0.092)
Need to evaluate	-0.128 (0.158)	-0.127 (0.158)	-0.233 (0.143)	-0.200 (0.162)
Discussion with opposing partisans	0.058* (0.021)	0.057* (0.021)	0.081* (0.025)	0.043* (0.022)
Discussion with same partisans	-0.061* (0.015)	-0.061* (0.015)	-0.065* (0.014)	-0.054* (0.014)
Constant	-0.427* (0.024)	-0.500* (0.054)	-0.628* (0.051)	-0.640* (0.056)
<i>Variance Components</i>				
State-Level ( $\tau_0$ )	0.005	0.006	0.006	0.008
Individual-Level ( $\sigma^2$ )	0.944	0.944	1.210	1.109
Deviance	4,129.38	4,144.20	4,549.93	4,441.44

*Note.* Multilevel estimates are maximum-likelihood (IGLS) estimates with estimated robust standard errors in parentheses.

\*p-value < 0.05.

ads and a high number of Republican ads does predict greater ambivalence. For example, if we hold the rest of the model constant in a context where ads were absent, the average level of ambivalence was -0.42. Moving from a noncompetitive state to one with an average amount of Republican and Democratic ads, the level of ambivalence decreases to -0.51. If the respondent was in a state with a high number of opposing ads, the average level of ambivalence then increased to

-0.3. Thus we find similar evidence to our matching model with a very different type of analysis. It would seem then that campaign context is one factor that can clearly contribute to levels of ambivalence.

While elite advertising messages contribute to candidate ambivalence in the presidential case, the effects are modest relative to the individual level sources of ambivalence. The difference in ambivalence between a strong partisan and an independent, holding all else equal, is nearly three times greater than the difference in ambivalence for respondents in states with competitive versus noncompetitive advertising environments. Talking to those who do not share the same candidate preference significantly increases ambivalence, where moving from the lowest to highest value on this measure predicts a 0.63 point increase in ambivalence. Discussion with those of the same partisan leanings decreases ambivalence 0.73 points, moving from the lowest to highest rate of in-party discussion. Increasing educational attainment increases ambivalence, with a 0.44 difference in presidential ambivalence between those with the lowest and highest level of education, all else equal.

In the third and fourth columns of the table, we explore the effects of ad volume on specific ambivalence about the Democratic and Republican presidential candidates. Again, to the extent to which presidential campaign spending influences ambivalence, it is through the combination of high Democratic ad volume and high Republican ad volume, not the sum of ad spending. The effects, however, are significant only for ambivalence about the Democratic candidate in 2000, not the Republican presidential contender.

### Multilevel Modeling of House Candidate Ambivalence

Next, we consider the sources of ambivalence in evaluations of House candidates. We employ a similar set of predictors as in the models of presidential ambivalence. We use the same set of individual level explanations as well as the measures of political discussion patterns, substituting concern about the presidential election outcome with a measure of concern with the outcome of House elections. Rather than Republican and Democratic ad buys, we use measures of campaign expenditures of House candidates, divided by the total voting age population in the district and logged to reduce nonlinearity. Rather than the state-level partisan diversity measure used in the presidential ambivalence model, we use a district-specific measure of demographic diversity. We employ a Sullivan (1973) index measure to capture the level of shared demographic characteristics in the population.<sup>12</sup> Higher values indicate more diverse districts, while lower values reflect congressional districts with greater demographic similarities.

<sup>12</sup> We use the demographic categories of age, income, education, race, Latino origin, and homeownership to construct this measure.

**Table 3.** Multilevel Models of Contextual Sources of House Candidate Ambivalence

	Comparative	Comparative	Democratic	Republican
<i>Fixed Effects</i>				
Demographic diversity	0.530 (0.350)	0.529 (0.352)	0.715* (0.426)	-0.003 (0.457)
Total House spending	-0.032 (0.024)	-	-	-
Republican spending	-	-0.015 (0.018)	0.111* (0.032)	-0.169* (0.030)
Democratic spending	-	-0.022 (0.024)	-0.177* (0.039)	0.109* (0.031)
Republican × Democratic spending	-	-0.011 (0.045)	-0.019 (0.052)	-0.068 (0.065)
Partisanship	-	-	0.039* (0.008)	-0.021* (0.007)
Strength of partisanship	-0.037* (0.015)	-0.037* (0.054)	-	-
Cares about election	-0.067* (0.015)	-0.067* (0.015)	-0.050* (0.018)	-0.080* (0.046)
Political knowledge	-0.0004 (0.010)	-0.0005 (0.010)	-0.004 (0.013)	-0.031* (0.018)
Education	0.004 (0.009)	0.003 (0.009)	-0.005 (0.012)	-0.001 (0.011)
Need for cognition	0.028 (0.039)	0.028 (0.039)	0.016 (0.059)	0.038 (0.046)
Need to evaluate	-0.051 (0.066)	-0.051 (0.066)	-0.074 (0.086)	-0.011 (0.072)
Discussion with opposing partisans	-0.032* (0.014)	-0.033* (0.014)	-0.043* (0.020)	-0.015 (0.015)
Discussion with same partisans	-0.001 (0.006)	-0.001 (0.006)	-0.021* (0.008)	-0.010 (0.008)
Constant	-0.200* (0.012)	-0.200* (0.012)	-0.250* (0.017)	-0.239* (0.015)
<i>Variance Components</i>				
State-Level ( $\tau_0$ )	0.0001 (0.009)	0.0001 (0.010)	0.001 (0.033)	0.003 (0.055)
Individual-Level ( $\sigma^2$ )	0.215 (0.464)	0.216 (0.464)	0.388 (0.623)	0.338 (0.582)
Deviance	1,702.72	1,712.76	2,659.82	2,505.35

*Note.* Multilevel estimates are maximum-likelihood (IGLS) estimates with estimated robust standard errors in parentheses.

\*p-value < 0.05.

We present the results from this model in Table 3. While individual-level differences in education and need for cognition have little effect on levels of House ambivalence, we find that concern over the outcome of House elections and strength of partisanship both drive down ambivalence about the House candidates.



The effects of social discussion patterns on House ambivalence are slight, where greater discussion with those of dissimilar preferences actually curtails candidate ambivalence rather than promoting it as in the presidential case.

Demographic diversity, as measured by the Sullivan index, has limited influence on levels of ambivalence, though district diversity does have a significant influence in promoting ambivalence about Democratic House candidates. Considering the effects of congressional campaign spending on ambivalence about House candidates collectively, we find little influence for either the total amount of spending in column 1 or the interaction of partisan spending in column 2. Instead, the effects of candidate spending on House ambivalence are more direct. Considering levels of ambivalence about the Democratic and Republican candidates individually, we find that one candidate's spending predicts less ambivalence about that candidate, while ambivalence increases with the amount of spending by that candidate's opponent.<sup>13</sup> While presidential battlegrounds can generate ambivalence through the contrast of high Democratic and Republican ad spending, we do not find the same for competitive House races. This unexpected result may reflect the distinctive environment of congressional campaigns, where fewer races are competitive and one-sided information environments are more common. In the 2000 ANES, only 5% of the sample lives in a district with a highly competitive congressional campaign—and 78% reside in districts with races that are considered uncompetitive. It may be that the small number of competitive contests and high number of safe seats in the sample limits the possibility of finding a significant interactive effect of Democratic and Republican congressional spending.

Congressional candidates can reduce voter ambivalence through more campaign spending, but surprisingly, we find that spending by an opponent can actually increase ambivalence about that candidate. In considering the effects of congressional campaign spending on candidate learning, Coleman and Manna (2000) find that spending by a challenger has a negative effect on a respondent's likelihood of making a positive comment about the House opponent, and increases the probability of saying something negative about that candidate. The ability for a candidate's spending to increase ambivalence about his or her opponent may represent a similar effect, where this spending helps create mixed feelings about the opponent. Overall, we find in House races, the competition between Democratic and Republican spending is less important than the amounts of partisan spending in the district. The importance of two-sided information flows in the generation of candidate ambivalence depends on the electoral context.

While individual factors contributed more to candidate ambivalence than campaign advertising in the presidential case, in the case of the House, candidate spending made a much greater contribution to levels of ambivalence. In the case of ambivalence about the Republican candidate, a respondent in a district with the

<sup>13</sup> These results are robust even when controlling for the total number of stated likes and dislikes about the House candidates.

highest level of Republican spending reports nearly six times less ambivalence ( $-0.64$ ) than a respondent in a district with the lowest level of spending ( $-0.11$ ). In the case of ambivalence about the Democratic candidate, a constituent in a district with the highest level of Democratic spending reports almost five times less ambivalence ( $-0.61$ ) than a respondent in a district with the lowest level of spending ( $-0.13$ ). Among the individual-level contributors to candidate ambivalence, concern for the outcome of the House elections decreases ambivalence 0.15 points in the case of Democratic candidate ambivalence and 0.24 points in the case of the Republican candidate ambivalence. In the case of partisanship, a strong Democrat reports 0.24 points less ambivalence about the Democratic House candidate and 0.12 points more ambivalence about the Republican candidate compared to a strong Republican.

### Conclusions

Ambivalence is often seen as the product of individual differences in political engagement and expertise. We find support for this logic—factors like the strength of political preferences and level of education affect the level of ambivalence people feel about presidential and congressional candidates. But beyond these individual differences, we also find that the nature of one's political environment can have a significant effect on levels of ambivalence. Competition in presidential ad spending promotes ambivalence, as does diversity within one's social environment. With the results of our matching model, we are able to draw a stronger causal connection than with standard regression models—that state contexts contribute to greater presidential ambivalence.

In the case of presidential ambivalence, two-sided information flows are the primary source of ambivalence. In contrast, in a low information venue like congressional contests, the amount of House spending is more consequential for levels of ambivalence than the competitiveness of resource allocation. Greater spending by a House candidate reduces public ambivalence about the candidate and increases ambivalence about the opposing contender.

Previous research on the effects of campaign messages highlights how the volume of campaign advertising stimulates interest and knowledge about presidential candidates (Freedman, Franz, & Goldstein, 2004) and how the amount of campaign spending in House races contributes to voter knowledge of congressional races (Coleman & Manna, 2000). We extend our understanding of the effects of campaign communication by investigating the contribution of campaigns to the occurrence of ambivalence. Presidential ads can engage and educate voters, but the competition of intense campaign advertising efforts by both Democrats and Republicans can also create conflict for voters who internalize arguments from both sides.

These findings suggest that presidential candidates can induce ambivalence in voters by shaping the campaign information environment. Through the allocation of ad spending across regions, candidates can contribute to voter ambivalence—

which in turn could destabilize vote choice and influence how voters make their decisions (Lavine, 2001). While this suggests a powerful influence of political elites to change voters, it is also limited, in that volume of spending alone cannot induce ambivalence in presidential candidate evaluations. The production of conflict about a presidential candidate depends on the joint strategies of candidates, the places where Democrats and Republicans both invest campaign resources.

These results also speak to the importance of the political context. For those concerned with civic competence, understanding the causes of ambivalence is important. While many previous studies of civic engagement focus on mobilizing the disinterested and educating the uninformed, the most active and informed citizens can still fail to represent the ideal principles of citizenship. For while these sophisticated voters are knowledgeable, they also often have strong prior preferences that inhibit the consideration of alternatives and opposing arguments. For those interested in promoting consideration among those who resist new information, promoting two-sided information environments may help achieve this.

Finally, these findings speak to a debate in the literature about the extent of ambivalence. Steenbergen and Brewer (2004) find that attitudinal ambivalence about public policy issues is fairly limited, while Lavine (2001) and Meffert, Guge, and Lodge (2004) find that candidate ambivalence is reasonably common. One explanation is that the likelihood of ambivalence-inducing contexts is much greater for candidate ambivalence than policy ambivalence. While policy issues certainly vary in their salience over time, the volume and intensity of campaign messages during competitive races are much greater and more likely to represent the two-sided information flows that contribute to ambivalence. In this way, the political context represents an important part of understanding when people internalize the conflicts of politics.

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