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# Assessing the Influence of Political Parties on Public Opinion: The Challenge from Pretreatment Effects

RUNE SLOTHUUS

*Despite generations of research, political scientists have trouble pinpointing the influence of political parties on public opinion. Recently, scholars have made headway in exploring whether parties in fact shape policy preferences by relying on experimental designs. Yet, the evidence from this work is mixed. I argue that the typical experiment faces a design problem that likely minimizes the extent to which parties apparently matter. Because parties have policy reputations, experimental participants may already know from real-world exposure to political debate where the parties stand before they are told in the experiment—they are “pretreated.” This study investigates how real-world political context interferes with party cue stimulus in experiments. In two experiments I show that two types of “pretreatment” from outside the experiment—exposure-based and reputation-based—dramatically moderate the effects of party cues in experiments. Moreover, the politically aware participants—who are most likely to have been pretreated before entering the experiment—are the most sensitive to this interference from real-world context. Paradoxically, experimenters are most likely to find no effect of parties at the very time that their influence is strongest outside the experiment. These findings emphasize the importance of keeping real-world context in mind when designing and analyzing experiments on political communication effects and might help reconcile disparate results of previous party cue experiments.*

**Keywords** experimental design, party cues, party reputations, pretreatment effects, public opinion

Political parties have long been seen as a fundamental force shaping public opinion, and information about parties' positions on political issues is among the most important types of political communication (Campbell, Converse, Miller, & Stokes, 1960; Downs, 1957). By taking positions in policy debates and “branding” policy proposals with a partisan label, political parties provide citizens with critical cues. By relying on such cues citizens are thought to be able to understand political issues and form meaningful policy preferences. As Sniderman (2000, p. 81) explains, “Citizens can overcome informational shortfalls about politics, not because they (mysteriously) can simplify public choices effectively, but because these choices are systematically simplified for them.”

Generations of correlational work lend support to this idea by revealing party identification as a strong component in public opinion (e.g., Jacoby, 1988; Zaller, 1992). However, despite its critical importance, the question of whether parties' policy positions *shape* citizens' opinions has been difficult to answer because parties sometimes react to the views already held by citizens, and party identification correlates with other values and ideology

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which could explain correlations between opinions and partisanship. Recently, scholars have made headway in exploring whether parties in fact shape policy preferences by relying on experimental designs. Indeed, Iyengar (2011, p. 129) observes, “experiments now represent a dominant methodology for political communication” (see Arceneaux, 2010).

In experiments, scholars can measure whether variation in partisan endorsements of a policy (i.e., party cues) independently affects policy opinion while controlling other factors. Yet, perhaps surprisingly, the evidence from this work is mixed at best. Thus, recent experimental attempts to assess the magnitude of partisan influence disagree over how powerful party cues are in shaping citizens’ policy opinions and, as Bullock (2011, p. 509) notes in a careful review, “The variation in these findings defeats most attempts to generalize” (also see Boudreau & MacKenzie, 2014; Nicholson, 2012).

In this article, I address one complication in designing and interpreting party cue experiments that has been virtually neglected by extant work: Because political parties are such visible actors in policy debates and news coverage of politics, participants in party cue experiments may already know where the parties stand on the issue in question even before they are exposed to party cues in the experiment; they have been “pre-treated.” In such instances, the real world interferes with the stimulus presented in the experiment. Thus, in the presence of pretreatment effects, “the experiment estimates not the average treatment effect, but, rather, the average marginal effect of *additional* treatment” (Gaines & Kuklinski, 2011, p. 450, emphasis added).

Consequently, party cues might shape public opinion, even when such effects cannot be detected in the experiment. In fact, paradoxically, experimenters will be most likely to find no relationship at the very time that the relationship is strongest outside the experimental context. Sniderman (2011, p. 109) calls the awareness of pretreatment effects a “neglected consideration” but a “dead-on-target insight” because “understanding how pre-treatments condition experimental responses is a precondition of understanding the logic of survey experiments.” Yet empirical investigations of pretreatment effects are sparse, as Druckman and Leeper (2012, pp. 875–876) observe: “Despite the potentially grave consequences of pretreatment effects—as raising serious questions about experimentally based inferences—there has been virtually no work on the topic.”

In this study, I address this void by illuminating how *real-world* pretreatment interferes with party cue stimulus in experiments on public opinion. No previous work on party cues has explicitly addressed pretreatment (e.g., Druckman and Leeper [2012] studied framing effects, not party cues), despite the fact that pretreatment effects are perhaps particularly likely to occur in the domain of partisan politics because the parties are the central actors in politics (Druckman, Peterson, & Slothuus, 2013; Iyengar, Sood, & Lelkes, 2012; Nicholson, 2012). Thus, the current study differs from previous work on party cues by providing an explicit test of how pretreatment from the real world interacts with the effects of experimental stimulus on party cues. Whereas other studies have implicitly acknowledged potential pretreatment by their selection of issues for the experiments (e.g., Bullock, 2011, p. 510; Kam, 2005, p. 167; Levendusky, 2010, pp. 119–120), the aim of the current study is to illuminate the experimental effects of party cues that were pretreated versus non-pretreated by the real-world context outside the experiment.

In what follows, I distinguish two sources of pretreatment effects—exposure-based and reputation-based pretreatment—and I show their relevance for assessing party cue effects in experiments. Findings from two studies demonstrate that real-world contexts do interact with the experimental party cue stimulus, suggesting that effects of party cues are not straightforward to detect in experiments and hence complicating the interpretation of experimental findings. These results emphasize the importance of keeping real-world context

in mind when designing and analyzing experiments on political communication. In light of these findings, I discuss previous experiments on party cues and suggest that part of the variation in effects of party cues in previous studies might be understood by taking pretreatment into account, recognizing that the typical party cue experiment faces a design problem that likely minimizes the extent to which parties matter. I also discuss how scholars can better take potential pretreatment effects into account when they design and interpret party cue experiments.

## Partisan Influence on Public Opinion

Party cues—explicit information about which political party supports or opposes a given policy—are considered essential to opinion formation because they are assumed to help citizens form opinions toward public policy, even when they have little grasp of the substance of the issue (Leeper & Slothuus, 2014). The citizen in modern democracy, Downs noted (1957, p. 233), “cannot be expert in all fields of policy that are relevant to his decision. Therefore he will seek assistance from men who are experts in those fields, have the same political goals he does, and have good judgment.” Such assistance often comes from political parties. Campbell and colleagues (1960), authors of *The American Voter*, argued that “In the competition of voices reaching the individual the political party is an opinion-forming agency of great importance.” Indeed, they saw “the role of party as a supplier of cues by which the individual may evaluate the elements of politics” (Campbell et al., 1960, p. 128).

Despite these early arguments, the work conducted over the following half-century, perhaps surprisingly, has had difficulties determining to what extent parties’ policy positions shape citizens’ opinions. Much correlational work is consistent with the idea that when citizens are told where their party stands on an issue, they will tend to support that position (e.g., Jacoby, 1988; Zaller, 1992). However, this work is limited when it comes to establishing a causal link between party positions and citizens’ policy preferences because parties sometimes follow rather than lead public opinion (Shapiro, 2011), and party identification is correlated with other values and ideology that can explain why partisans often take the same policy position as their party (Goren, 2005; Jacoby, 2011).

To overcome these limitations and gain control over cause and effect, more recently scholars have turned to experiments to test the impact of party cues on opinion formation. In the typical party cue experiment (e.g., Nicholson, 2012), one group of participants are asked their opinion toward a policy, described without mentioning which party supports it, whereas another group of participants are asked their opinion on the same policy, this time telling which party supports it. A difference in opinion between the two groups is taken as evidence of the magnitude of political parties’ influence on opinion. The larger the difference, the bigger the effects of party cues; the smaller the difference, the lesser impact of parties.

However, if anything, the results from this body of work are mixed. Some studies do find effects of party cues on opinion but of very different magnitude (e.g., Aarøe, 2012; Boudreau & MacKenzie, 2014; Bullock, 2011; Carmines & Kuklinski, 1990; Druckman, 2001; Kam, 2005; Lupia & McCubbins, 1998; Lupu 2013; Mondak, 1993, 1994; Nicholson, 2012; Slothuus & de Vreese, 2010). Other studies, in contrast, report much more limited effects (e.g., Merolla, Stephenson, & Zechmeister, 2008, p. 689; Nicholson, 2012; Sniderman & Stiglitz, 2012, p. 130). In a careful review, Bullock (2011, p. 498) calculated that in the evaluated studies, “party cues have average effects on attitudes between 3% and 43% of the range of attitude scales” and he noted that “Variation this great

makes generalization difficult.” In short, existing experimental research does not point to any clear-cut influence of party cues on opinion formation.

Yet, all of this work has paid only scant attention to one important complication for assessing the influence of parties on public opinion based on experimental estimates. Because parties are such visible actors in politics and media coverage, participants in party cue experiments may already know where the parties stand on the issue in question before they are exposed to party cues in the experiment.<sup>1</sup> In such instances, the real world interferes with the stimulus presented in the experiment and makes it difficult to assess—from the “impact” of the party cue stimulus—what the *real* influence of parties on opinion is. Thus, there is a possibility that the opinions of citizens participating in the experiment have already been influenced by party cues but before they entered the study. That is, they have been “pretreated”: exposed to—and influenced by—party cues akin to the experimental stimulus before the experiment began.

### Pretreatment and the Detection of Party Cue Effects

Pretreatment constitutes a challenge for scholars attempting to experimentally assess the influence of party cues on citizens’ opinions. In general terms, Gaines, Kuklinski, and Quirk (2007, p. 12) explain that “survey experimenters face complications because, if their hypotheses have merit, the effects they simulate are likely to have occurred in the real life. In effect, some respondents are likely to have been contaminated by prior exposure to the treatment.” Thus, “there is inevitably some possibility that respondents enter the experiment having already participated in a similar experiment, albeit one occurring in the real world” (p. 13).

Consequently, in a party cue experiment, the effect of the party cue stimulus might be diluted by respondents having already been pretreated in the real world before participating in the experiment (i.e., they know where the party stands on the policy issue in question). Due to pretreatment, party cues might influence policy opinion even when such effects cannot be detected in the experiment because experimental participants already knew the party cue, and have formed opinions accordingly, before it was presented to them in the experimental setting. In such instances, “the experiment estimates not the average treatment effect, but, rather, the average marginal effect of *additional* treatment” (Gaines & Kuklinski, 2011, p. 450, emphasis added). In effect, in the face of pretreatment, an experiment might not be estimating what observers think it is estimating.

For example, Nicholson (2012) found that when Democratic identifiers were asked their opinion about a liberal policy explicitly attributed to the Democratic party, a large majority of Democrats supported it. He found about the same opinions, though, when Democratic identifiers did *not* receive party cues, which led him to conclude that party cues had limited power to shape opinions. However, what if respondents already knew the party’s position before entering the experiment, and had formed their opinions accordingly? This is not unlikely, as Nicholson (2012) conducted experiments on “familiar political issues with clear differences in partisan support” where partisans had “already sorted themselves” (p. 57). Thus, participants likely already knew the positions of the parties before taking part in the experiment. This could explain the similar partisan divisions in the control and treatment conditions and why policy preferences exhibited a sharp partisan divide even in the non-cued control groups. If this is the case, the party might have shaped opinions even though only a limited effect could be detected in the experiment, and hence concluding limited influence of parties on opinion would be misleading (for a related argument based on partisan stereotypes, see Bergan, 2012).

The goal of this study is to illuminate how *real-world* pretreatment might interfere with party cue stimulus in experiments on public opinion. I distinguish two types of pretreatment relevant in the context of party cue experiments: exposure-based and reputation-based pretreatment. Following the definition by Druckman and Leeper (2012, p. 876), exposure-based pretreatment occurs when three conditions are met, namely when (a) experimental participants, prior to the experiment, have been “exposed and attentive to a communication akin to the treatment” (i.e., a party cue), (b) the pretreatment communication (i.e., the party cue) influenced participants’ opinion, and (c) that the effect sustained “until the time of the experiment.” Exposure-based pretreatment is perhaps the most intuitive and straightforward source of pretreatment and occurs when citizens before taking part in the experiment have heard about and learned the connection between a political party and a policy position (e.g., if a party has presented a new policy proposal and the news media covered it).

Reputation-based pretreatment is a second source of pretreatment, particular to communication from political parties. On most major issues, political parties have policy reputations; that is, parties are known by citizens to stand for particular policies. As parties compete over time, their reputations for taking certain positions on issues and defending particular values are reinforced and increasingly recognized by citizens (Conover & Feldman, 1989; Lodge & Hamill, 1986; Petersen, Slothuus, & Togeby, 2010; Petrocik, 1996; Sniderman & Stiglitz, 2012; Snyder & Ting, 2002). In the United States, for example, voters know that Democrats tend to take a liberal position on issues and Republicans tend to take a conservative position (Sniderman & Stiglitz, 2012; Snyder & Ting, 2002).

The existence of parties’ policy reputations poses a major challenge for experimental researchers studying partisan influence on public opinion because even when citizens have not been exposed to the specific policy position of a given political party, they might be able to infer from the party’s reputation what its position on the issue in question would be. Consequently, even without being explicitly treated with the party cue in the experiment (e.g., participants in a “no cue” control group), experimental participants might infer the party cue from the party’s reputation, which will make it difficult to assess the actual impact of party cues on opinion from the observed experimental effects (e.g., the difference in opinion between a control group and a treatment group).

In other words, if parties’ policy reputations are well-established on an issue, experimental participants may already be familiar with, or be able to infer, the parties’ respective policy positions before they are presented with a party cue in the experiment. Indeed, the whole idea of parties having established reputations is that citizens can figure out what the parties stand for, even if they are not told in the specific situation. As Sniderman and Stiglitz (2012, p. 116) aptly put it, “To say that parties brand their policies is thus to say that the policies are identified with the parties, in the minds of those who know the policy reputations of the parties. And to say this is to say that a party’s policies bear its mark even without its label having to be attached to them on each and every occasion.” In other words, “at least with respect to policies associated with a party, attaching a party label to the policies should be superfluous.”

In sum, two types of pretreatment effects—exposure-based and reputation-based—are likely to complicate the interpretation of party cue experiments. Indeed, in addition to pretreatment resulting from prior exposure to the specific message presented in the experiment, it is because political parties sometimes have well-established policy reputations that pretreatment is particularly important to be aware of in the context of party cue experiments. Thus, a pretreated cue is a cue where experimental participants have already been exposed to the specific policy position of the political party in question, or a cue that makes



a connection between a party and a policy position which would already follow easily from a party's general policy reputation.

## Hypotheses

A consequence of pretreatment—exposure-based and reputation-based alike—is that a pretreated cue will have limited impact on opinion formation in the experimental context because it already had its effect on experimental participants before the experiment. Thus, the general expectation is that when presented with party cues that are already salient in the context surrounding the experiment (e.g., due to media coverage of a major policy debate) or are in line with parties' policy reputations, citizens will likely already have been influenced by the party cues in the real world before taking part in the experiment—that is, such party cues are likely pretreated—and hence their effects on opinion formation in the experiment should be limited. In contrast, when presented with party cues that have not been widely publicized or do not conform to parties' policy reputations, citizens will likely not have learned or be able to infer the specific positions of the parties beforehand—that is, the cues are non-pretreated—and in such situations party cues should have a larger impact on opinion. This leads to the first hypothesis:

*H1:* Policy opinion among experimental participants will be less affected by “pretreated” party cues than by “non-pretreated” party cues, moderated by partisanship of the receiver. Thus, when they are exposed to non-pretreated party cues, partisans are more inclined to move toward the position of their own party and away from the position of an opposing party than when they are exposed to pretreated party cues.

However, this overall expectation of how experimental participants will respond to pretreated and non-pretreated cues can be extended by taking the moderating effects of political awareness into account. Individual variation in political awareness both influences citizens' attention to political communication (and hence their likelihood of being pretreated) and how they process and use the communications they encounter (such as to what extent they strive to form opinions consistent with their party's position).

First of all, depending on their level of political awareness individuals vary in their likelihood of being pretreated to party cues by the real-world context outside the experiment. The politically engaged and aware citizen “pays attention to politics *and* understands what he or she has encountered” (Zaller, 1992, p. 21) to a larger extent than does the less politically aware citizen. Politically aware individuals, by definition, will more likely know the policy reputations of parties (Lodge & Hamill, 1986) and should be better able to comprehend and integrate new information (like a party cue) into their opinion formation (Druckman & Nelson, 2003; Nelson, Clawson, & Oxley, 1997; Slothuus, 2008). Therefore, the effects of a pretreated party cue should be particularly limited among politically aware participants because they are more likely to have already been pretreated.

At the same time, politically aware individuals tend to be more motivated to strive for consistency between their policy opinions and partisanship (Taber & Lodge, 2006; Zaller, 1992). In the realm of politics, citizens often engage in motivated reasoning where they seek out and interpret information in a way that is consistent with their preexisting political attitudes and identities. This tendency is most widespread among politically aware individuals because they are more motivated and better able to counter-argue attitude-inconsistent information (Lavine, Johnston, & Steenbergen, 2012, p. 28–29; Taber, Cann, & Kucsova, 2009; Taber & Lodge, 2006). Therefore, more politically aware citizens should be more

inclined to follow cues from their party (Slothuus & de Vreese, 2010; Zaller, 1992). Hence we should expect a complex dynamic where politically aware participants should be less affected by pretreated party cues but they should respond more to non-pretreated party cues, as expressed in the following hypotheses:

*H2a:* When receiving “pretreated” party cues, the more politically aware participants will be *less* affected by party cues than the less politically aware participants. Thus, less aware partisans will be more likely to move toward the position of their party and away from the position of an opposing party than more aware partisans.

*H2b:* When receiving “non-pretreated” party cues, the more politically aware participants will be *more* affected by party cues than the less politically aware participants. Thus, more aware partisans will be more likely to move toward the position of their party and away from the position of an opposing party than less aware partisans.

I now turn to presenting the results from two experiments designed to test these hypotheses, focusing on reputation-based and exposure-based pretreatment, respectively.

### **Environmental Spending Experiment: Test of Reputation-Based Pretreatment**

Designed to test reputation-based pretreatment, the first experiment was embedded in a survey conducted in the form of computer-assisted telephone interviews (CATI) with a random sample of 1,919 adult Danish citizens in spring 2006 (see Supplemental Material). The minimum response rate was 67% (American Association for Public Opinion Research [AAPOR] RR1), and the respondent-level cooperation rate was 83% (AAPOR COOP3). Denmark is a typical Western European country with a multiparty parliamentary system and a proportional representation electoral system. This context thus offers a large range of parties to select for the study, allowing greater variation in party cues.<sup>2</sup>

Respondents answered questions about partisanship and political attitudes and later they received a policy question containing the experimental manipulation of party cues. As reputation-based pretreatment means that experimental participants will be able to infer the specific policy position of a party based on its general policy reputation, the key to the experimental design is to compare the effect of a party cue that is in line with a party's well-established policy reputation (i.e., a “pretreated” party cue) with the effect of a party cue that deviates from the policy reputation of a party (i.e., a “non-pretreated” party cue). Because I am interested in how well-established party reputations in the real-world context surrounding the experiment can interfere with party cues in the experimental stimuli, I follow Levendusky (2010) and Nicholson (2012) and compare cues from different parties and only use policy positions that the parties actually take in the real world.

Specifically, I take advantage of the fact that on some issues parties have general policy reputations that are clear in the public mind, and yet, on some specific policy they happen to take a different position than most people assume (see Petrocik, 1996). This way, the current experiment can assess the impact of both pretreated and non-pretreated party cues without presenting respondents with information at odds with the real policy positions taken by the parties.<sup>3</sup> The experiment focused on a policy proposal to increase the government's spending on the environment, framed as a necessary policy to reduce CO<sub>2</sub> emissions. The experimental manipulation consisted of a variation across four conditions where the policy



was sponsored by one of three political parties (Social Democrats; Red-Green Alliance; Conservatives) or no party (the control group). The environment is a longstanding issue in Danish politics and sufficiently salient in public debate for the parties to have developed general policy reputations on the issue (Green-Pedersen, 2006; Stubager, Møller Hansen, & Goul Andersen, 2013, p. 26).

To document the pretreatment environment surrounding the experiment, Table 1 uses data from the 2005 Danish National Election Study (see Andersen, Rathlev, Andersen, & Pedersen, 2005) to show the expected variation in policy reputations between the three relevant political parties. Respondents were asked to locate the parties on a 5-point scale ranging from “least green policy” (= 0) to “most green policy” (= 1). As Table 1 shows, the center-left Social Democrats—one of the two largest parties in parliament—and the small left-wing Red-Green Alliance, both of which have a long tradition of being pro-environment, were perceived as holding very green positions well above the middle point of the scale (means = .65 and = .86, respectively, on the 0–1 scale). In contrast, the center-right Conservatives were perceived as being much less “green,” falling significantly below the midpoint of the scale (mean = .40).<sup>4</sup> Note also that the standard deviations are about the same for each party, which suggests that their respective policy reputations are equally clear and well-established to the voters. These policy reputations are strikingly consistent for the different levels of political awareness (second and third rows in Table 1).<sup>5</sup> In other words, most citizens have clear perceptions of the parties’ policy reputations and this case thus is well-suited for testing pretreatment to party cues.

Accordingly, party cues consistent with policy reputations (i.e., pretreated cues) were operationalized by the experimental conditions where the pro-environmental policy was endorsed either by the Social Democrats or the Red-Green Alliance. In these two experimental conditions participants are expected to be able to infer the parties’ specific policy position, leaving the experimental treatment with little impact. Conversely, the condition with the Conservatives endorsing the pro-environmental policy operationalized a non-pretreated party cue. The Conservative position in the experiment runs contrary to the traditional Conservative policy reputation associated with business interests and reluctance to increase public spending (cf. Table 1), even though the cue is true to the actual policy position taken by the party at the time of the experiment.<sup>6</sup> Specifically, the survey question read as follows:

**Table 1**  
Environmental policy reputations of three political parties

|            | Red-Green Alliance | Social Democrats   | Conservatives      |
|------------|--------------------|--------------------|--------------------|
| All        | .86*** (.22; 1858) | .65*** (.18; 2064) | .40*** (.20; 1995) |
| Less aware | .80*** (.24; 956)  | .64*** (.19; 1114) | .40*** (.21; 1049) |
| More aware | .91*** (.17; 902)  | .66*** (.16; 950)  | .39*** (.19; 946)  |

*Notes.* Data from the 2005 Danish National Election Study. Entries are mean positions with standard deviations and number of cases in parentheses. See text for question wording. Political awareness was measured by a seven-item general political knowledge index ( $\alpha = .70$ ), dichotomized at the median (56.1% less aware).

\*\*\* =  $p < .001$  for test of difference from scale midpoint (0.5). All pair-wise group differences also significant at  $p < .001$ .

There has been some discussion regarding Danish climate policy. As you might know, [some people/the Social Democrats/the Red-Green Alliance/the Conservatives] believe Denmark should spend more money to reduce CO<sub>2</sub> emissions. To what extent do you agree or disagree with this proposal?<sup>7</sup>

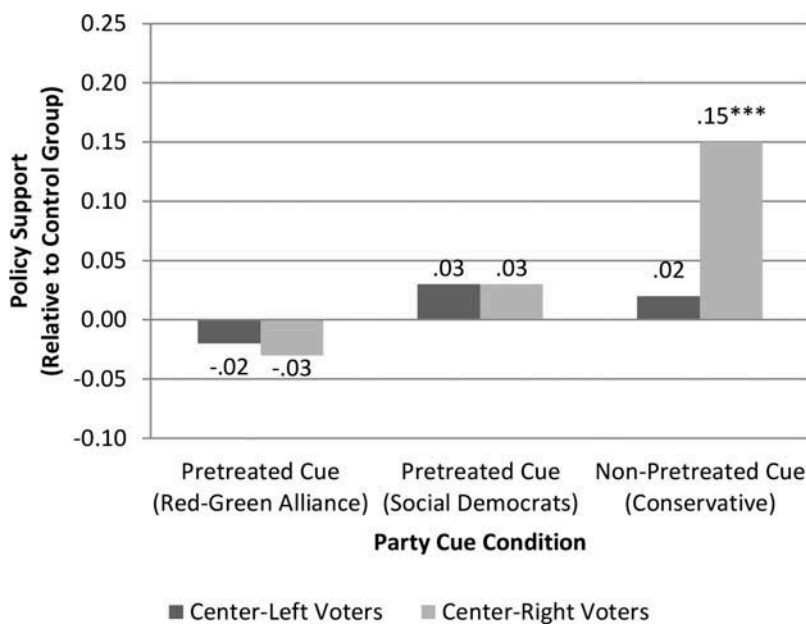
I expect party cues involving the Social Democrats or Red-Green Alliance to have minimal impact on opinion formation because these cues are pretreated from real-world context. In contrast, the Conservative cue—even though true to reality—is non-pretreated because it is not in line with the policy reputation of the party and thus is expected to affect policy opinion.

Partisanship was simply measured by party preference. The question read, “If an election for the *Folketing* [i.e., the Danish parliament] was held tomorrow, which party would you vote for?” Due to the relatively large number of parties in Danish politics (i.e., seven in parliament at the time of the study), parties were divided into meaningful groups—center-left voters and center-right voters—in order to preserve a sufficient number of cases in the analysis. Moreover, this classification is consistent with the bloc logic of the Danish party system (see Green-Pedersen & Thomsen, 2005).<sup>8</sup> Following previous research (Kam, 2005; Taber & Lodge, 2006; Zaller, 1992), political awareness was measured using six general political knowledge questions, summed to an index ( $\alpha = .69$ ) and dichotomized at the median (48.1% less aware).

### Findings

To test the expectation that pretreated party cues will have much less influence on opinion than non-pretreated party cues (H1), Figure 1 presents difference in opinion between each experimental condition and the control group. The dependent variable was rescaled to run from 0 through 1, with higher values indicating greater policy support. Because citizens are hypothesized to respond differently depending on their partisanship, results are shown separately for center-left voters (black bars) and center-right voters (gray bars).<sup>9</sup> Since participants were presented only with a policy position attributed to a political party (or in the control group: “some people”) and did not receive detailed policy information, traditional accounts of the influence of parties on opinion formation would expect all party cues to influence opinion, moderated by partisanship such that individuals are more likely to support environmental spending if advocated by their party (Bullock, 2011). However, this is not what we find in Figure 1. As the results in the two pretreated cue conditions show, neither the Social Democrats nor the Red-Green Alliance cues had much impact on opinion.<sup>10</sup> This is exactly what we should expect if participants were pretreated from the real world before entering the study. As Table 1 showed, most people knew the Social Democrats and the Red-Green Alliance are generally pro-environment and hence should not be surprised when told in the experiment that these parties support increased spending on environmental protection. These results thus are consistent with the hypothesized pretreatment effects.

However, the null effects are also consistent with alternative interpretations of limited effects of party cues, most notably suggestions that citizens’ preferences on the given issue are “sticky” (e.g., Sniderman & Stiglitz, 2012) or that citizens possess policy-relevant information on the issue to base their opinions on (e.g., Mondak, 1993). This is where the non-pretreated Conservative cue condition is useful. Because issue and policy position, and therefore citizens’ issue-specific knowledge and strength of prior attitudes, are kept constant across the experimental conditions, the only difference between the Conservative condition and the other cue conditions is that the Conservative cue is non-pretreated, given



**Figure 1.** Environmental spending experiment: Effects of party cues on policy support.

*Notes:* Each bar (reading from left to right) is based on the following number of cases: 141, 161, 135, 167, 134, and 179. Test of significance of difference in policy support relative to control group: \*\*\* =  $p < .001$  (two-sided).

that it runs counter to most citizens' perceptions of the Conservative policy reputation. Thus, according to H1, the Conservative cue should affect opinion, whereas according to the alternative explanations mentioned earlier it should not.

As we see in [Figure 1](#), the Conservative cue, and *only* this cue, influences opinion—causing a substantial and statistically significant difference in policy support of .15, or 15% of the opinion scale, among center-right voters. As expected, the influence of the Conservative cue is confined to center-right voters. The moderating impact of partisanship on the effects of the Conservative cue is corroborated in Model 1 of [Table 2](#) by the significant interaction between the Conservative Cue and Center-Right Party Preference ( $b = .13$ ).<sup>11</sup> Thus, the conclusion to be drawn from [Figure 1](#) and [Table 2](#) is clear: Only the Conservative cue had non-trivial effects on opinion, consistent with reputation-based pretreatment and supporting H1. Previous studies of party cues cannot explain this variation in effectiveness between party cues (e.g., Kam, 2005; Mondak, 1993; Sniderman & Stiglitz, 2012).

Thus, the reactions presented in [Figure 1](#) express a political logic where the real-world context interacted with the experimental stimulus. Citizens respond on the basis of what they already know about partisan politics. When they receive a non-pretreated party cue—and the Conservative cue was not what people had expected given the party's policy reputation—they adjust their policy preferences accordingly. But only some individuals responded—the center-right voters. Center-left voters already held pro-environment opinions and could hardly be more supportive. Note that in Model 1 of [Table 2](#) the intercept—indicating mean opinion on the 0–1 scale in the control group among center-left voters (i.e., the reference category of the party preference variable)—is .82. In other

**Table 2**  
Effects of party cues on support for environmental spending,  
by party preference and political awareness

|  | Model 1:<br>All<br>Participants | Model 2:<br>Center-Left<br>Voters | Model 3:<br>Center-Right<br>Voters |
|--|---------------------------------|-----------------------------------|------------------------------------|
| Intercept                                    | .82 (.03)***                    | .84 (.04)***                      | .65 (.04)***                       |
| Social Democrats Cue                         | .03 (.04)                       | -.03 (.05)                        | -.01 (.06)                         |
| Red-Green Alliance Cue                       | -.02 (.04)                      | -.04 (.05)                        | -.08 (.06)                         |
| Conservative Cue                             | .02 (.04)                       | -.06 (.05)                        | .08 (.06)                          |
| Center-Right Party Preference                | -.24 (.04)***                   |                                   |                                    |
| Social Democrats Cue × Party<br>Preference   | -.00 (.06)                      |                                   |                                    |
| Red-Green Alliance Cue × Party<br>Preference | -.01 (.06)                      |                                   |                                    |
| Conservative Cue × Party<br>Preference       | .13 (.06)**                     |                                   |                                    |
| Political Awareness                          |                                 | -.03 (.05)                        | -.14 (.06)**                       |
| Social Democrats<br>Cue × Awareness          |                                 | .11 (.07)                         | .08 (.09)                          |
| Red-Green Alliance<br>Cue × Awareness        |                                 | .04 (.07)                         | .11 (.09)                          |
| Conservative Cue × Awareness                 |                                 | .16 (.07)*                        | .15 (.08)#                         |
| Adjusted $R^2$                               | .10                             | .01                               | .03                                |
| $N$  | 1,210                           | 542                               | 668                                |

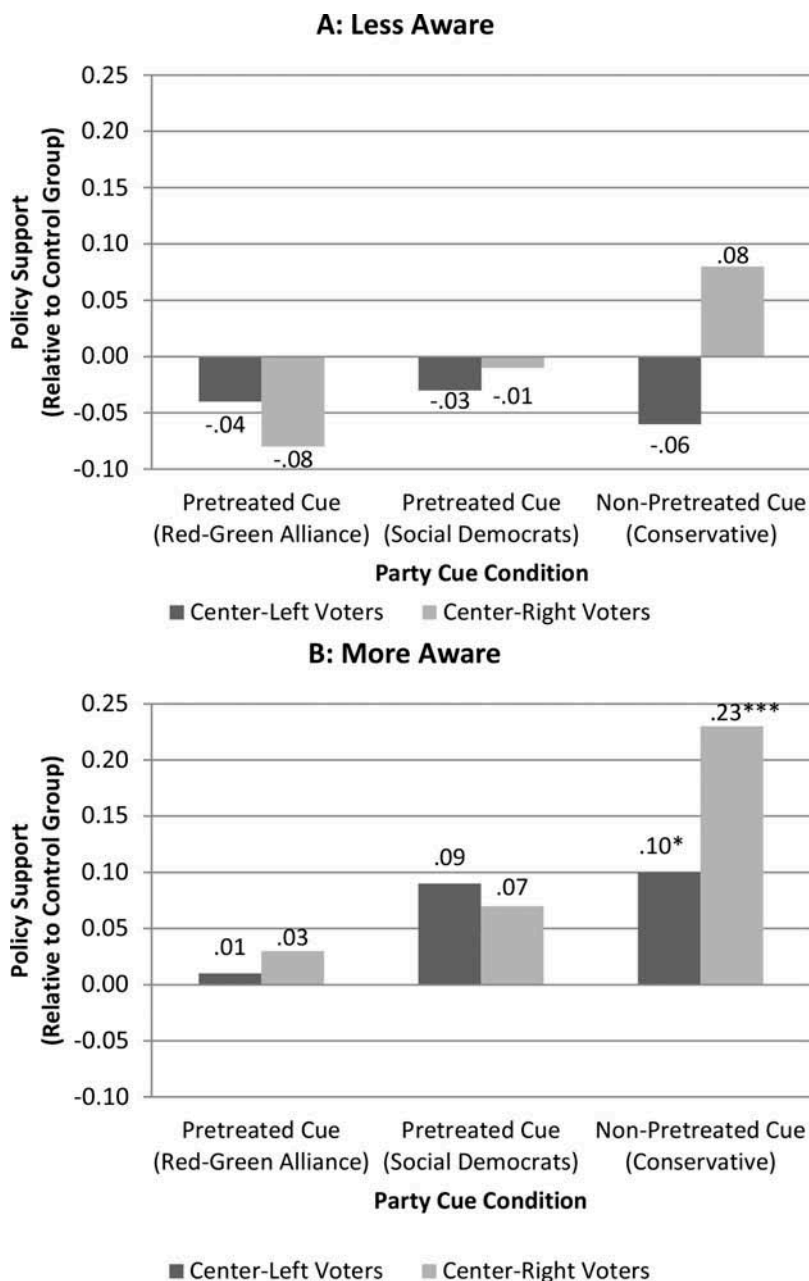
*Notes.* Entries are unstandardized OLS regression coefficients with standard errors in parentheses. The dependent variable is opinion toward increasing environmental spending, measured on a 0–1 scale, with higher values indicating greater support for spending. Political Awareness is coded 0 = less aware; 1 = more aware.

# $p < .08$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (two-sided).

words, they had already formed policy preferences consistent with cues from their parties before receiving experimentally induced party cues. Thus, the analysis clearly showed that pretreatment from the real-world surroundings influences the experimental estimates of the influence of the Social Democrats and Red-Green Alliance cues. The results suggest minimal partisan influence on preferences whereas, in the real world outside the study, these parties likely had a major impact on opinion among center-left voters.

Yet, there is more to the story as the difference between pretreated and non-pretreated party cues is expected to be magnified among the more politically aware. Politically aware citizens more likely know the policy reputations of parties and hence the effects of pretreated cues should be minuscule among them (H2a). At the same time, the politically aware should be more inclined to respond to new information and take positions consistent with their party when receiving non-pretreated party cues (H2b).

To test these expectations, Figure 2 presents opinion differences from the control group by partisanship, this time separately for less aware (Panel A) and more aware (Panel B) participants. Among both groups of voters the results are highly supportive of the expectation



**Figure 2.** Environmental spending experiment: Effects of party cues on policy support by political awareness.

*Notes:* Each bar (reading from left to right) is based on the following number of cases: Panel A: 71, 64, 63, 73, 69, 90; Panel B: 70, 97, 72, 94, 65, 89. Test of significance of difference in policy support relative to control group: \* =  $p \leq .05$ ; \*\*\* =  $p < .001$  (two-sided).

the more politically aware citizens will respond in a more partisan-consistent way (H2b). Looking first on center-right voters, the more aware were expected to be more responsive to the Conservative cue because they are better able to integrate new information into their opinion formation and are more motivated to follow their party. This is exactly what we find in Panel B where policy support differs from the control group by as much as .23 (or 23% of the full range of the opinion scale) among aware center-right voters, a highly significant difference in opinion. In contrast, opinion only differs by .08 and not significantly among less aware center-right voters. As the significant Conservative Cue  $\times$  Awareness interaction in Model 3 of Table 2 corroborates, among center-right voters the politically aware responded relatively more than the less aware to the Conservative cue.<sup>12</sup>

Turning to center-left voters, the more aware (Panel B in Figure 2) show no significant difference in opinion in response to any of the pretreated cues and neither do the less aware voters (Panel A). Thus, this pattern does not fully support H2a, as it was expected that the less aware could respond more to pretreated cues than the more aware. However, the lack of opinion effects is consistent with the overall pretreatment expectation in H1. Moreover, consistent with H2b, the more aware center-left voters are more responsive to the non-pretreated Conservative cue than are the less aware. Thus the aware center-left voters (Panel B) are significantly more supportive by 10 percentage points whereas the less aware (Panel A) tend to be less supportive in response to the Conservative cue (-6%), though not significantly. As is clear from the significant Conservative Cue  $\times$  Awareness interaction in Model 2 of Table 2, this differential response moderated by political awareness is statistically significant. This result is partly consistent with H2b. Yet, even though the reaction from the aware center-left voters is sensible given that they received novel information about the Conservative party taking a position consistent with the position of their own parties, it was not expected that they would be more supportive. One possible explanation might be that this signal of apparent political consensus, recognized by these aware voters, could have persuaded them to be even more supportive of the policy; another and perhaps related explanation might be that Conservative support for environmental spending could signal urgent problems on the issue.

In sum, focusing on an instance of reputation-based pretreatment, the Environmental Spending Experiment provided strong support for H1, stating that pretreatment can affect the experimental estimates of partisan influence on opinion. Policy preferences on this issue were, apparently, immune to partisan influence, but once pretreated party cues consistent with the policy reputations of political parties were compared to a non-pretreated party cue, and not to a control group without explicit party cues, substantial partisan influence emerged. Thus, the party cues that proved ineffective in the experiment likely were very influential—their effect on opinion just occurred before citizens entered the experiment. In addition, political awareness moderated responses to party cues in meaningful ways, though providing only mixed support for H2a and H2b.

But is the influence of pretreatment on experimental estimates of party influence confined to policy issues where the parties have longstanding policy reputations citizens can use to make inferences about specific party positions? What if the experiment addressed a new policy where party positions did not follow logically from longstanding reputations and where pretreatment would require that experimental participants had been exposed to the specific policy debate in order to be pretreated on the issue?



## Labor Supply Experiment: Test of Exposure-Based Pretreatment

As with the first experiment, the aim of the Labor Supply Experiment was to illuminate how the real-world context potentially interferes with the experimental stimuli, but the focus was on exposure-based pretreatment. To this end, the experiment studied a novel policy issue where party positions did not follow from parties' long-standing policy reputations. Therefore, experimental participants could not meaningfully infer the parties' specific positions on the policy, meaning that the cues provided in the experiment could not be pretreated in the reputation-based sense. Instead, intense partisan political debate over the policy was carefully covered by the news media. Thus, citizens following the debate before taking part in the experiment could have learned the parties' position on the policy from exposure to media coverage of the debate, leading to exposure-based pretreatment.

Specifically, the experiment focused on a debate over labor market policy in Denmark. In the aftermath of the economic downturn in 2008–2010, like in many countries the political agenda in Denmark shifted to economic issues, in part how to make public finances more sustainable (Stubager, 2012). As part of the competition among political parties over this issue, the Social Democrats and the Socialist People's Party—the center-left government coalition alternative to the then-incumbent center-right government—launched a major economic plan, “Fair Solution,” on May 11, 2010. A central element in this plan was a proposal that all Danes, on average, should work one hour more per week (i.e., enhance the supply of labor) in order to increase tax revenues and hence bolster public finances (Bille, 2011; Stubager, 2012). That this policy was proposed by the center-left parties was not at all given, as they historically have been closely affiliated with the labor unions and traditionally would *not* have argued for employees to work more, hence the lack of a clear link between the policy and parties' policy reputations (Stubager & Slothuus, 2013).

The proposal to work more was intensively covered by the news media and was the major issue on the political agenda for several weeks. In this debate, the center-left parties were criticized by the center-right parties (i.e., the Conservatives and the Liberal party) for not being economically responsible. However, crucial to the current design, the critique of the center-left parties was targeted at the “Fair Solution” in general. In fact, the center-right parties did support increasing labor supply by having employees work more.<sup>13</sup> From public debate and media coverage, however, citizens could only get the impression that the proposal was supported by the center-left and (at least somewhat) opposed by the center-right parties. Consequently, exposure-based pretreatment could be expected on the Social Democratic party cue, but not on the Liberal party cue. Like in the Environmental Spending Experiment, this situation made it possible to vary party cues from being “pretreated” (i.e., consistent with intensive media coverage of a party's policy position; the Social Democrats) to “non-pretreated” (i.e., inconsistent with media coverage of a party's position; the Liberals). Again, the choice of policy issue made it possible to vary party cues without providing respondents with false information (see Levendusky, 2010; Nicholson, 2012).

The experiment was embedded in an online survey conducted by the Epinion polling company in the period June 9–21, 2010. E-mail invitations were sent out to 2,344 members of the standing online panel of the company. A total of 1,803 participants completed the survey, resulting in a response rate of 77% and a sample of the adult Danish population that was fairly diverse (see Supplemental Material). Collecting data online made it possible to be in the field immediately after the policy debate (i.e., after citizens had been pretreated with party cues on the issue but before the pretreatment effect decayed) (Mutz, 2011, p. 19). Closely mimicking the policy debate as described earlier, the experimental manipulation

consisted of a survey question with the following three versions, randomly assigned to respondents:

[Some people/the Social Democrats/the Liberal party] have suggested that all Danes in the longer run should work one hour more per week in order to improve the economy. We would like to hear your opinion on this proposal. To what extent do you agree or disagree with each of the following statements?  
[a] It is a good idea that Danes should work one hour more per week.<sup>14</sup>

To validate that “the Social Democrats” was the pretreated cue and “the Liberals” the non-pretreated cue, respondents in the control group (i.e., not receiving a party cue) were asked a follow-up question: “Do you happen to remember which of the following political parties had suggested that all Danes in the longer run should work one hour more per week in order to improve the economy?” They could pick from a list of parties and it was possible to provide multiple answers. Table 3 presents the distribution of answers to this question. There is strong support for the expectation that most citizens would assume, when presented with the policy proposal without partisan labels, that the proposal was made by one or more of the center-left parties. Thus, 93% of all respondents report to believe the policy was proposed by one or more of the center-left parties while almost no one mentions a center-right or other party. Also note that very few replied “don’t know.” The two bottom rows of Table 3 further show that the parties’ policy reputation on the highly debated policy proposal was received by almost all segments of the electorate. Among the less aware half, as many as 88% believe the proposal was made by the center-left parties; among the more aware nearly everyone has this perception. These figures indicate strong pretreatment, and this case thus proves ideal for testing the possible impact of pretreatment on estimates of party cue effects on opinion.

Partisanship was measured the same way as in the Environmental Spending Experiment and political awareness was measured by four factual knowledge items (see Supplemental Material). Again, the analyses focus on voters of the center-left and center-right parties ( $N = 1,246$ ).

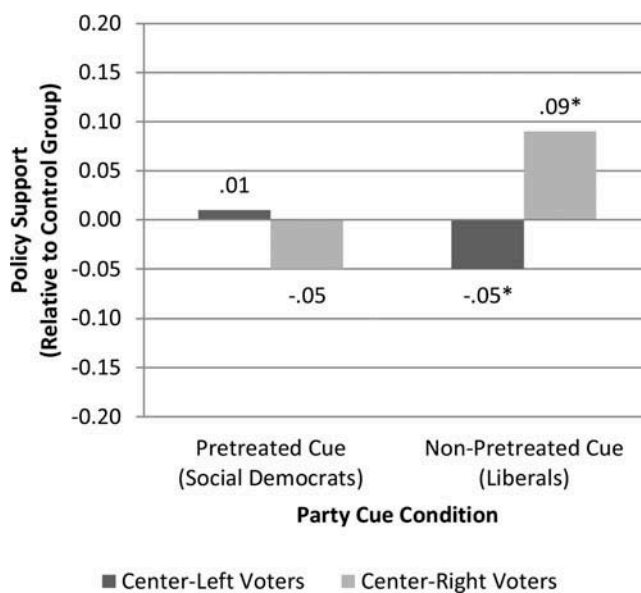
### Findings

To test the expectation that pretreated party cues will have minimal influence on opinion whereas non-pretreated party cues will move opinion (H1), Figure 3 shows the effect of

**Table 3**  
Parties’ policy reputations on labor supply policy

|            | Mention<br>Center-Left Party | Mention<br>Center-Right Party | Mention Other<br>Party | Don’t<br>Know |
|------------|------------------------------|-------------------------------|------------------------|---------------|
| All        | 93                           | 4                             | 3                      | 4             |
| Less aware | 88                           | 6                             | 4                      | 8             |
| More aware | 97                           | 2                             | 3                      | 1             |

*Notes.* Entries are proportion mentioning a center-left party (Social Democrats; Socialist People’s Party; Red-Green Alliance), a center-right party (Conservatives; Liberals), another party, or “Don’t know.” See text for question wording. Only respondents in the control condition were asked this question, and only voters of the center-left or center-right parties are analyzed ( $N = 421$ ).



**Figure 3.** Labor supply experiment: Effects of party cues on policy support.

*Notes:* Each bar (reading from left to right) is based on the following number of cases: 273, 125, 278, 127. Test of significance of difference in policy support relative to control group: \* =  $p < .05$  (two-sided).

each party cue, relative to the control group.<sup>15</sup> As expected, the pretreated Social Democrats cue had no significant effect on opinion, not even among center-left voters.<sup>16</sup> Again, the minimal effects of the Social Democrats cue could potentially be caused by citizens basing their opinions on strong values (Kam, 2005), possessing issue-specific information eliminating the need for relying on party cues (Mondak, 1993), or having “sticky” preferences on the issue (Sniderman & Stiglitz, 2012). These alternative explanations, and not pretreatment, could account for the lack of effect from the Social Democrats cue. However, as in the Environmental Spending Experiment, the current study was specifically designed to control for all of these factors by using exactly the same policy on the same issue and just varying the party cue.

Thus, the expectation is that the lacking influence of the Social Democrats cue in the experiment should not be confused with parties having no influence on policy preferences on this issue. To the contrary, once a non-pretreated party cue is presented—a cue not conforming to the perceptions of parties’ policy reputations that experimental participants would have acquired from media exposure before entering the experiment—policy opinions should respond. This is exactly what we see in Figure 3. As expected, among center-right voters in the non-pretreated Liberal cue condition, policy support is significantly higher than in the control group (a difference in opinion of .09, or 9% of the range of the opinion scale). Among center-left voters policy support is slightly lower in the Liberal cue condition compared to the control group (a difference of .05) and statistically significant. This lower support is somewhat surprising because, in the real world, the policy clearly is supported by their party; as we will see later, however, this deviation in opinion is occurring among the less aware. The differential response to the Liberal cue across partisan groups

**Table 4**  
Effects of party cues on support for working more, by party preference and political awareness

|   | Model 1:<br>All<br>Participants | Model 2:<br>Center-Left<br>Voters | Model 3:<br>Center-Right<br>Voters |
|---|---------------------------------|-----------------------------------|------------------------------------|
| Intercept                               | .68 (.02)***                    | .65 (.03)***                      | .50 (.04)***                       |
| Social Democrats Cue                    | .01 (.03)                       | .01 (.04)                         | -.17 (.06)**                       |
| Liberal Cue                             | -.05 (.03)*                     | -.08 (.04)*                       | .01 (.06)                          |
| Center-Right Party Preference           | -.20 (.03)***                   |                                   |                                    |
| Social Democrats Cue × Party Preference | -.06 (.05)                      |                                   |                                    |
| Liberal Cue × Party Preference          | .15 (.05)**                     |                                   |                                    |
| Political Awareness                     |                                 | .06 (.04)                         | -.04 (.06)                         |
| Social Democrats Cue × Awareness        |                                 | .00 (.05)                         | .19 (.08)*                         |
| Liberal Cue × Awareness                 |                                 | .04 (.05)                         | .13 (.08)#                         |
| Adjusted $R^2$                          | .08                             | .07                               | .05                                |
| $N$                                     | 1,213                           | 837                               | 376                                |

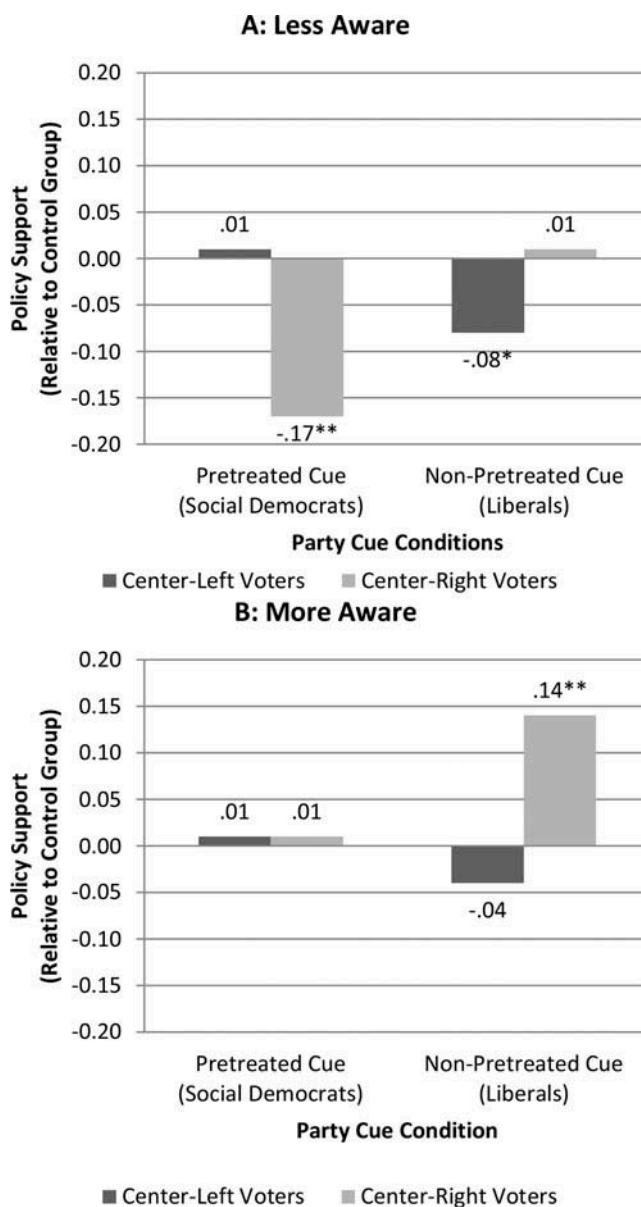
*Notes.* Entries are unstandardized OLS regression coefficients with standard errors in parentheses. The dependent variable is opinion toward proposal to increase labor supply by everybody work more, measured on a 0–1 scale, with higher values indicating greater support for the proposal. Political Awareness is coded 0 = less aware; 1 = more aware.

#  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$  (two-sided).

is corroborated by the significant Liberal Cue × Party Preference interaction in Model 1 of Table 4.

These dynamics support H1 and clearly suggest the null effect of the Social Democrats cue stems from pretreatment. In the real-world debate outside the experiment, the Social Democrats and Socialist People's Party likely had a substantial influence on public opinion on this issue. Another indication of a pretreatment effect from the real world is the strong negative effect of Center-Right Party Preference on policy opinion ( $b = -.20$  in Model 1 of Table 4). The coefficient refers to the difference in opinion among center-left and center-right voters in the control group. This difference most likely stems from the perception among voters, presumably on both sides, that the unbranded-policy is proposed by the center-left parties. Otherwise, there would be no theoretical reasons to expect that voters on the center-right side of the political spectrum (e.g., those subscribing to a conservative ideology) should believe less in hard work or possess less of a work ethic than voters on the center-left.

Again, responses to party cues are expected to be further moderated by political awareness. In this respect, interesting findings emerge from Figure 4, presenting opinion change in response to party cues by levels of political awareness. Looking first at center-left voters, the Social Democrats cue has no effect on opinion among either the less aware (Panel A) or the more aware (Panel B) voters. This is consistent with the wide recognition across levels of political awareness (cf. Table 3) that the policy was proposed by this party. In contrast, the Liberal cue sparks a negative reaction, significant though modest in size, among



**Figure 4.** Labor supply experiment: Effects of party cues on policy support by political awareness. *Notes:* Each bar (reading from left to right) is based on the following number of cases: Panel A: 120, 40, 112, 49; Panel B: 153, 85, 166, 78. Test of significance of difference in policy support relative to control group: \* =  $p \leq .05$ ; \*\* =  $p < .01$  (two-sided).

the less aware center-left voters (support decreases by .08). It might be seen as surprising that they lose faith in a policy so clearly promoted by their own party at the time but it suggests that the less aware are less able to see the connection between the policy and the broader pattern of partisan conflict at the time. Consistent with this interpretation, the aware center-left voters did not express a different opinion when faced with the Liberal

cue (i.e., they apparently recognized that the policy was also proposed by their own party). Despite the fact that more aware center-left voters appeared to respond more in line with their party, the expected moderating role of political awareness (H2b) is not fully supported as the responses among less and more aware center-left voters is not significant, as indicated by the non-significant Liberal Cue  $\times$  Awareness interaction in Model 2 of Table 4.

Turning to center-right voters, the moderating effect of political awareness is more in line with the expectations. As is clear in Figure 4, the less aware center-right voters (Panel A) react negatively on the Social Democrats cue (policy support is .17 lower as compared to the control group), whereas opinions do not move at all among the more aware (.01; see Panel B). In other words, the aware center-right voters react in the control group *as if* they were treated with the Social Democrats cue while the less aware did not show the same consistency—that is, they appear as if some of them had forgotten or were not aware that the policy, in the real world outside the experiment, was promoted by the center-left parties. This indicates exposure-based pretreatment was more pronounced among the politically aware as expected.

In response to the Liberal cue, the more aware center-right voters again react with the expected higher consistency and become significantly more supportive of the policy once they are told the policy is promoted by their own party (by .14). In contrast, the less aware are not more positive toward the policy than in the control condition, yet their opinions in the Liberal cue condition are in stark contrast to the negative reaction on the Social Democrats cue. This strong moderating effect of political awareness is corroborated by the analysis in Model 3 of Table 4. Thus, the significant Liberal Cue  $\times$  Awareness interaction supports that the more aware center-right voters were more inclined to follow their own party. Conversely, the significant coefficient of the Social Democrats cue in combination with the significant Social Democrats cue  $\times$  Awareness interaction show that the less aware center-right voters responded to the pretreated cue whereas the more aware center-right voters did not.

In sum, the Labor Supply Experiment corroborated the findings from the first experiment, hence providing strong support for the impact of real-world pretreatment on experimental estimates of partisan influence. Thus, respondents reacted highly similarly to the unbranded policy in the control group and the pretreated Social Democrats cue condition. In contrast, the non-pretreated Liberal cue sparked substantial movement in opinion (particularly among center-right voters) by providing novel information as compared to the policy reputation of the Liberal party. These findings suggest that the Social Democrats cue was not ineffective in affecting public opinion; it just already had had its impact before the experiment took place (recall that in the control group policy support was much higher among center-left voters).

The pretreatment explanation of these dynamics was further supported by the findings on political awareness, at least among center-right voters who largely reacted consistent with expectations if they were pretreated. That is, in contrast to the less aware, the more aware center-right voters showed less difference between the unbranded control group and the pretreated cue condition—suggesting that they already had taken party cues into account in the control group—and they reacted less negatively toward cues from the out-party if it promoted a policy consistent with the policy of their own party—indicating that they drew on the policy reputation of their own party. The responses among center-left voters were more mixed, leaving only partial support for the expected moderating impact of political awareness on exposure-based pretreatment.



## Discussion

Focusing on two types of pretreatment—exposure-based and reputation-based—this study has investigated how real-world political context can interfere with experimental stimulus in party cue experiments and potentially affect the experimental effects observed. While some have pointed out that experiments sometimes exaggerate real-world effects (Barabas & Jerit, 2010), this study pursued the different possibility that experiments might also underestimate effects when the real-world context pretreats experimental participants. Such interference might be particularly likely in experiments with political parties because variation of the partisan context of an issue might not be easy to control, even within an experimental design. The reason is that political parties are such visible and ubiquitous actors in media coverage of politics that experimental participants regularly would know the parties' general policy reputation and be able to infer from it what position the parties will take on the policy in question, even without being explicitly "treated" with the party cue (i.e., reputation-based pretreatment). Alternatively, experimental participants might already have been exposed to the specific policy position of a party, adjusted their opinion accordingly, and retain this opinion when they enter the experiment (i.e., exposure-based pretreatment).

While this complication to assessing the influence of parties on public opinion has been noted by others (Bullock, 2011; Kam, 2005; Levendusky, 2010; Nicholson, 2011), this study represents the first systematic test of how pretreatment from real-world context can moderate the effects of party cues on policy opinion in an experiment (also see Bergan, 2012). Across two experiments, I showed that pretreated party cues—that is, cues consistent with parties' well-established policy reputations—had negligible influence on the opinions of experimental participants. However, as Sniderman and Stiglitz (2012, p. 126) correctly note, "Failing to find something counts as finding something only if one has done one's very best and still come away empty-handed." Therefore, my experiments were specifically designed in a way as to ensure that this "empty-handedness" was not due to troubles in the experimental design. Rather, when participants were presented with non-pretreated party cues on the same policy, the experiments did produce the expected effects on opinion (H1). In tandem, these experiments provide strong support that political events occurring in the real world surrounding the experiment might interfere with experimental stimulus presented and, in turn, influence the experimental estimates. As discussed further, however, the results were less consistent on how political awareness moderated pretreatment effects. The more politically aware were less responsive to pretreated cues (H2a) and more responsive to non-pretreated cues from their party (H2b), but these effects did not always occur, lending only mixed support to these hypotheses.

### *Implications for Interpreting Experimental Effects of Party Cues*

One major implication of pretreatment effects in the context of party cue experiments is that the typical party cue experiment faces a design problem that likely minimizes the extent to which parties matter. Party cues might exert a larger influence on public opinion, or a larger impact on particular subgroups, than can be detected in the typical experiment. As noted by Bullock (2011), there is a great variability in the magnitude of party cue effects found in experiments, and at least part of this variation in experimental effects might be due to pretreatment. The risk of finding no or small effects of party cues while in fact parties do shape opinion outside the experiment is probably larger on salient policy issues intensively covered by the media (due to exposure-based pretreatment), on issues clearly linked

to parties' well-established policy reputations (due to reputation-based pretreatment), or among individuals most likely to follow partisan debate over policy issues or to know a great deal about the party politics in general.

Some previous experimental studies of party cues seem to fit this expectation of finding smaller effects of cues that could potentially have been pretreated. Thus, Mondak's (1993) finding that the influence of presidential source cues are limited on issues with intensive media coverage could be the result of exposure-based pretreatment. Similarly, although Sniderman and Stiglitz (2012) focus on spatial reasoning and are not concerned with party cue effects per se, they study "issues that parties contest on a regular basis" (p. 117) and find little impact of party cues on policy opinion, just as would be expected given pretreatment effects are likely on such issues. Likewise, differences in the magnitude of party cue effects between Canadian parties reported by Merolla and colleagues (2008) could potentially be stemming from pretreatment. They found greater effects on opinion in response to a party cue from the New Democratic Party, "the least well-known in Canadian politics," and limited effects of cues from the Liberal party, "the best known in Canadian politics" (Coan, Merolla, Stephenson, & Zechmeister, 2008; Merolla et al., 2008, p. 690; also see Nicholson, 2011), a pattern consistent with reputation-based pretreatment. Turning to individual differences in the likelihood of pretreatment, some party cue experiments have found smaller effects of party cues among the more politically aware (or better educated or politically sophisticated) (e.g., Mondak, 1993, 1994)—precisely those individuals most likely to have been pretreated.

Interpreting previous experimental results in light of possible pretreatment leads to the conclusion that some of these studies might have underestimated the impact of party cues on opinion—because the experimental effects did not capture the full effect of the party cue but only the impact of additional exposure to the cue (cf. Gaines & Kuklinski, 2011). However, before concluding that parties are more powerful in shaping opinion than revealed in previous experiments, perhaps even among more politically aware citizens in particular, it is necessary to note that other existing results are less consistent with the pretreatment hypothesis. For example, Cohen (2003) and Slothuus and de Vreese (2010) found large effects of party cues on longstanding issues where the parties' positions were clear before the experiment, indicating limited reputation-based pretreatment. Similarly, Bullock (2011) found party cue effects of about the same size before and after an intense national debate over health care, suggesting limited exposure-based pretreatment.

### *How to Take Pretreatment into Account in Party Cue Experiments*

The two experiments reported here demonstrating possible interactions between real-world context and experimental stimuli emphasize the importance of keeping real-world context in mind when designing and analyzing experiments on partisan influence. Yet it is difficult to assess to what extent previous experimental results have been affected by pretreatment. Future party cue experiments would benefit from taking potential pretreatment effects explicitly into account.

As a first step toward considering pretreatment, Gaines and Kuklinski (2011, p. 858) advise that, "At minimum, experimenters should consciously consider whether pretreatment has occurred. . . . Even a simple yes or no, without any estimated magnitude of the bias, represents an improvement over failure to pose the questions at all." One way to assess whether pretreatment occurred, according to Gaines and colleagues (2007, pp. 15–16), would be that scholars make "assumptions" or "guesses" about "how many respondents are likely to have experienced real-world pretreatment." In this study, I have

advanced their approach by attempting to *measure* empirically—rather than assuming—how many respondents have been pretreated. Specifically, I showed two alternative ways of measuring potential pretreatment and using these measures to form expectations about which party cues will be effective, first, by measuring the general policy reputations of parties on an issue (in the Environmental Spending Experiment); second, by asking participants to attribute the source of a specific policy proposal (the Labor Supply Experiment). Attempting to directly measure potential pretreatment is even more pressing as there is debate in the literature about how knowledgeable citizens actually are about party positions (e.g., compare the critique by Luskin, 2002; with Nicholson & Segura, 2012; Sniderman & Stiglitz, 2012).

Improving our understanding of how real-world pretreatment might interfere with experimental effects is best done by studying these potential interactions across different contexts using different designs. The current study provided a strong and consistent initial demonstration of pretreatment from the real world across two experiments, conducted by two different survey modes. Subsequent studies can extend these results in various ways, such as use pretreated and non-pretreated party cues covering the entire political spectrum, extend Druckman and Leeper (2012) and experimentally vary pretreatment on party cues, or repeat the same party cue experiment with different groups of participants at various points over a political campaign to see if campaign intensity moderates experimental effects. Another advance in research design would be to measure participants' perceptions of the parties' policy reputation and their specific position-taking to see how pretreatment at the individual level would condition experimental party cue effects. In light of the mixed results on political awareness found here, this could be a fruitful way to explore if pretreatment can be detected at the individual level (i.e., when matching cue with the individual's knowledge about the specific party position).

Regardless of the specific design, integrating potential pretreatment explicitly into studies of party cues can improve our understanding of the relationship between political parties and public opinion more generally. This is pressing, not least, because experimenters, paradoxically, are most likely to find no party influence at the very time that the relationship is strongest outside the experimental context. Despite the potential presence of pretreatment effects, the experimental design is uniquely well-suited to address questions of political communication effects on opinion formation (Iyengar, 2011; Nelson, Bryner, & Carnahan, 2011; Sniderman & Bullock, 2004). The key lesson is that experimental results on political phenomena should be interpreted by taking into account the potential interference from the real world.

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## Supplemental Material

Supplemental data for this article can be accessed on the publisher's website at: <http://dx.doi.org/10.1080/10584609.2015.1052892>

## Notes

1. Some previous studies have implicitly taken this logic into account when selecting policy issues for the experiments (e.g., Bullock, 2011, p. 510; Druckman et al., 2013, pp. 61–62; Kam, 2005, p. 167; Levendusky, 2010, pp. 119–120).

2. There is an increasing awareness that party cue effects might differ across countries (Brader, Tucker, & Duell, 2013; Bullock, 2011, pp. 511–512) but this concern is less relevant here as I compare the effects of different party cues within the same country.

3. In their study of framing effects, Druckman and Leeper (2012) manipulate the “pretreatment environment” experimentally (in Study 1). I deviate from their approach because my aim is to investigate how real-world party reputations interact with experimental stimuli.

4. Further substantiating these differences in policy reputations, only 5% of the respondents placed the Conservatives as greener than the Social Democrats (74% perceived the Social Democrats as greener than the Conservatives) and 5% placed the Conservatives as greener than the Red-Green Alliance (and fully 85% placed the Red-Green Alliance as greener than the Conservatives).

5. Wordings of political awareness questions are in the Supplemental Material.

6. Thus, the Conservative Minister of the Environment proposed a policy similar to the one in the experiment (see, e.g., *Jyllands-Posten*, February 8, 2005, Section 1, p. 10, and *Berlingske Tidende*, August 29, 2005, Section 2, p. 8), and a proactive climate policy was a key issue in the Conservative party platform in the 2007 national election campaign the year after the experiment was conducted (e.g., the Conservatives emphasized the environmental issue in newspaper ads and in their campaign brochure, *Vi holder Danmark paa sporet* [*We Keep Denmark on Track*]).

7. Responses were obtained on a 5-point scale ranging from “strongly disagree” to “strongly agree.” “Neither/nor” and “Don’t know” were coded as middle of the scale. Results are the same if “Don’t knows” are excluded from analysis. Half of the respondents were exposed to an extended wording of the question that added “. . . because it is necessary to limit global warming.” However, the reactions toward the two alternative question wordings were almost identical and hence these conditions are analyzed together.

8. Responses were thus grouped into center-left (Social Democrats, Socialist People’s Party, and Red-Green Alliance; 28.3%) and center-right (Liberals and Conservatives; 34.8%). Participants who did not indicate any party preference or would vote for another party were excluded from the analysis (36.9%), leaving 1,212 cases for subsequent analysis. Since the current study aims to illuminate how pretreatment moderates the impact of party cues on opinion, and not to show how each minor party group responds to party cues per se, the drop in number of cases should have little theoretical relevance.

9. Randomization was successful (see Supplemental Material) and hence any differences in support for environmental spending across the four experimental conditions can be attributed to the variation in party cues.

10. Opinion means, standard deviations, and number of cases for all cells are in the Supplemental Material.

11. For ease of interpretation, I report OLS regression results. Results are substantially the same using ordered probit models (see Supplemental Material).

12. The interaction term is significant at the  $p < .08$  level. However, combining center-right and center-left voters, the interaction is clearly significant; see later information.

13. For example, the party leader of the Liberals (despite its name, one of the ideologically conservative parties in the center-right bloc), Prime Minister Lars Løkke Rasmussen, expressed support for such a policy (see *Berlingske Tidende*, May 12, 2010, Section 1, p. 1; *Politiken*, September 30, 2008, Section 1, p. 6), as did Speaker of the Liberals, MP Peter Christensen (see *Jyllands-Posten*, May 11, 2010, Section 1, p. 6).

14. Responses were recorded on a 7-point scale, rescaled to run from 0 through 1, with higher values indicating greater policy support.

15. Randomization was successful (see Supplemental Material).

16. Again, all opinion means, standard deviations, and number of cases for all cells are in the Supplemental Material.

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