

# Linking personality and policy: The moderating roles of cues and frames

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## Abstract

The mechanisms by which personality shapes political attitudes are underexplored. We examine the interplay among dispositional openness, political engagement, and elite discourse in the context of two key processes that shape public opinion generally: elite cue-taking and policy framing. In Study 1, we examine the extent to which the presence or absence of partisan cues moderates the relationship between openness and policy preferences. In Study 2, we examine the extent to which personality-targeted policy frames moderate this relationship. We find strong evidence that partisan cues increase the strength of the relationship between openness and policy preferences. We find suggestive evidence that the size of the moderating effect of party cues increases as a function of political engagement. We find no evidence for a moderating role of personality-targeted frames. Our paper provides some of the strongest evidence to date for how and when elite discourse shapes the relationship of personality to political attitudes.

## INTRODUCTION

A large literature explores the relationship of personality to political attitudes and ideology (Federico & Malka, 2023). The most influential strand of this literature suggests that left–right ideological conflict is the political manifestation of a broad dimension of personality (Jost et al., 2018), which we refer to in this paper with the summary label “openness” (Johnston et al., 2017).<sup>1</sup> On one end of this

<sup>1</sup>Consistent with past work (Carney et al., 2008), we consider the Big Five dimension of openness to experience (McCrae, 1996) to be one manifestation of this dimension, but we are not referring to openness to experience alone. For example, the Schwartz value dimension of “openness to change” (Schwartz, 1992) is at least as closely related to our dimension of interest. Similarly, the need for *closure* is a prototypical negative indicator of this dimension (Jost, 2017). Our purpose in using this summary term is to convey the fact that research on personality and political preferences has emphasized the strong relationship among several commonly studied personality variables (Federico & Malka, 2023; Jost et al., 2018), and that the idea of “openness,” in general terms, is a reasonable way of conceptualizing what they share (see Johnston et al., 2017 for an extended argument on this front). Others have made the same argument, but using the summary phrase “needs for certainty and security” (Malka et al., 2014). The most influential statement of this view is found in the work of Jost and colleagues (Jost, 2017; Jost et al., 2018), who emphasize security and certainty needs (existential and epistemic needs), and who have also explored the dimension using Big Five openness to experience (Carney et al., 2008) and Schwartz openness to change values (Thorisdottir et al., 2007).

dimension are people with high needs for *certainty* and *security*, who are thought to be attracted to right-wing political ideas and policies for their emphasis on alleviating such concerns, as seen, for example, in right-wing support for policies that promote traditional values, a strong military, or limits on immigration. On the other end are people who generally feel less threatened and more comfortable with uncertainty, who in turn are thought to be attracted to left-wing political ideas and policies for their emphasis on individual freedom, diversity, and change, as seen, for example, in left-wing support for policies that promote diversity in sexuality, gender, and spirituality, or higher levels of immigration. There is, indeed, much empirical support for these claims (Jost, 2017; Jost et al., 2018).

In practice, however, specific political issues are complicated and can be understood in different ways. Is a 5% increase in the top marginal tax rate high or low? Is the goal to reduce inequality, make the rich pay their fair share, or expand the social safety net? Is it a Democrat/left-leaning or a Republican/right-leaning policy? Different ways of understanding an issue may play an important role in shaping how personality relates to policy preferences. Emphasis on different kinds of considerations may change the way competing issue positions align with the needs and goals characteristic of different personality types (Johnston et al., 2017; Malka et al., 2014).

Indeed, researchers increasingly view political attitude formation as an interactive process between “bottom-up” factors, such as personality, and “top-down” factors, such as elite discourse aimed at defining a political object for the public (Jost et al., 2009). Because politics is complex, and because the average person knows relatively little, it is rare that the relationship of personality to attitudes will be direct and independent of the information environment in which a person is embedded (Malka et al., 2014). The relationship will depend on the way the object of evaluation is discussed and whether a given citizen is exposed to that discourse (Johnston et al., 2017; Jost et al., 2009).

There are at least two primary ways in which political discourse can shape the relationship of personality to political attitudes. First, policies are often linked to prominent cultural and political symbols, such as party names (Cohen, 2003; Zaller, 1992), social groups (Gilens, 2009), or ideological labels (Malka & Lelkes, 2010). To the extent that personality shapes attitudes *toward these groups and symbols*, such “cues” will induce a relationship of traits to policy attitudes. For example, over the last few decades, the relationship between authoritarian childrearing values and Republican partisanship has increased substantially (Engelhardt et al., 2023; Hetherington & Weiler, 2018). Information that links a political stance to the Republicans should thus induce (or strengthen) a positive relationship of childrearing values to this stance. In this way, discourse linking policy positions to parties helps people connect their broader psychological traits to specific political issues.

Second, political issues can be “framed” in different ways, and different frames bring to mind different kinds of considerations relevant to forming a stance (Chong & Druckman, 2007). For example, Nelson et al. (1997) find that tolerance for the speech rights of a disliked group rises and falls with how the issue is framed—in terms of freedom of speech or public order. As another example, tax-funded unemployment benefits are a redistributive policy when framed in terms of their consequences in the present (transferring money from employed to unemployed people), but are an insurance policy when framed in terms of the future (the employed today may be unemployed tomorrow) (Moene & Wallerstein, 2001). In turn, the constituency supporting the policy may vary depending on how the issue is framed.

A personality variable (e.g., need for closure) shapes policy preferences when there is a perceived match between the needs and goals that define the variable and those associated with the policy. It is in this sense that a particular policy might “meet the psychological needs” of a particular person. If frames *change* how citizens understand policy goals, they may also change the relationship of personality to policy support. Those with high needs for closure, for example, should be more supportive of funding unemployment benefits when they are framed as *insurance* as opposed to *redistribution* (Johnston et al., 2017). In the former case, there is a much closer

connection between the needs and goals represented by the personality variable (i.e., certainty) and those represented by the policy (i.e., reducing uncertainty in income over time).

Most empirical evidence for the claim that elite discourse moderates the relationship of personality to political preferences comes from observational studies of cross-sectional relationships. In particular, it is a robust finding that the relationship of openness to left-wing political preferences increases as a function of political engagement, which serves as a proxy for exposure to elite discourse (e.g., Jedinger & Burger, 2019; Johnston et al., 2017; Malka et al., 2014; Ollerenshaw, 2024; Ollerenshaw & Johnston, 2022). The relationship also varies by cultural and political context. While openness is related to left-wing views in Western Europe and the U.S., it is often associated with right-wing (free market) views on economic policy in Eastern European countries (among others) (Malka et al., 2014, 2019; Thorisdottir et al., 2007).

However, direct *experimental* evidence in support of the moderating role of cues and frames is thin. Johnston and colleagues show in a series of experiments that attaching party (Democrat vs. Republican) and ideology (liberal vs. conservative) cues to policy positions strengthens the relationship of a general openness personality dimension to left-wing policy support in the United States. Openness, in this work, is measured as a latent variable underlying responses to items from several related measures of personality, including (low) need for closure, openness to experience, (low) authoritarian childrearing values, and openness to change over conservation values (Johnston et al., 2017; Johnston & Wronski, 2015). To our knowledge, this is the only experimental evidence to date for the elite cues hypothesis.<sup>2</sup>

There is even less evidence for the idea that policy frames moderate the relationship of personality to policy preferences. Moreover, the evidence is indirect, in that it largely examines “moral reframing” in the context of moral foundations theory (Graham et al., 2013). In a series of papers, Feinberg, Willer, and colleagues find that framing policy positions in ways that resonate with citizens' moral priorities increases support for those positions (Feinberg & Willer, 2015, 2019; Voelkel et al., 2023). Similarly, Kalla et al. (2022) find evidence from a canvassing study that tailoring appeals to the moral priorities of listeners increases persuasion on the issue of abortion. The similarity of these moral foundations to personality concepts (e.g., binding foundations and authoritarian childrearing values) suggests that personality-targeted frames should be influential, but there is little work of which we are aware that directly tests this claim. One exception is Luttig and Lavine (2016), who find that framing policies in terms of losses versus gains is more effective for people who are dispositionally focused on preventing losses (versus promoting gains; see Higgins (1998)).

In sum, there are strong *theoretical* reasons to expect cues and frames to moderate the relationship of personality to policy preferences. There is also robust observational evidence of variation in the relationship across political engagement and political context that is consistent with this claim. Yet direct evidence from experimental studies is lacking, especially for the framing hypothesis.

The present study partly fills this gap. We examine two large-N national survey experiments in the United States. The first attempts a conceptual replication of the finding that party cues moderate the size of the relationship between openness and policy preferences (Johnston et al. (2017)). Inspired by the moral reframing literature, the second study examines

<sup>2</sup>They also argue and find that political engagement moderates this relationship, such that engaged citizens are more responsive to party cues than unengaged citizens. The reason, they suggest, is twofold. First, the politically engaged are better sorted into the two major parties by personality. Second, the engaged care more about expressing core aspects of their identity through their partisanship, and use policy positions as a way to do so. While they find empirical evidence for this hypothesis, there are also reasons to expect the opposite moderating effect. Specifically, unengaged individuals tend to have less stable political attitudes and thus might rely more heavily on short-term contextual influences, such as cues. It is thus important to reconsider the moderating role of engagement in new data.

the hypothesis that different ways of framing one and the same policy alter the relationship of openness to policy support.

We measure openness with several personality variables central to recent empirical work on this topic, which are closely related, both to one another and to influential personality-based theories of mass politics (Jost et al., 2018). They include openness to experience from the Big Five (McCrae (1996); Gerber et al. (2010)), openness to change (over conservation) values from Schwartz value theory (Malka et al., 2014; Schwartz, 1992), need for cognitive closure (related to uncertainty aversion) (Van Hiel et al., 2004), and authoritarian childrearing values (Hetherington & Weiler, 2018; Stenner, 2005). As stated above, we find it useful to summarize this body of work in terms of the claim that *increasing openness is associated with left-wing policy preferences*. As we describe further in the methods section, we thus focus our analysis on the latent variable underlying these four personality traits. In [Supporting Information Online Appendix 8](#), however, we reproduce all analyses separately for each of the four. While results are generally very similar, we note in the main text when there is interesting variation.

Empirically, we find that party cues have a clear and substantively large moderating effect. When party cues are present, the relationship of openness to left-wing policy support is much larger than when cues are absent. This strongly reinforces past work on the importance of elite cues for connecting personality variables to policy preferences. Second, we find suggestive evidence that the effect of party cues is larger among politically engaged people relative to the unengaged, which is consistent with Johnston et al. (2017). However, the uncertainty in the interaction term is too high to draw strong conclusions. Third, we find no evidence for a moderating role of frames. Across several different ways of framing policies to target specific personality types, we find minimal and statistically insignificant changes in the relationship of respondent personality to policy support.

Overall, our work adds much-needed experimental evidence to the literature on the mechanisms linking personality to policy attitudes, reinforcing some claims while calling others into question and laying foundations for future work on the topic.

## METHODS

### Transparency statement

Experimental designs were approved by the Institutional Review Board at Duke University (protocol no. 2022-0284) and both data collections were pre-registered on the Open Science Framework on 03 March 2024 and 30 March 2024, respectively (<https://osf.io/hdvjg> and <https://osf.io/gpbzk>). The data that support the findings of this study are openly available in Open Science Framework at <https://doi.org/10.17605/OSF.IO/BZC43>.

### Data

We conducted two pre-registered survey experiments. Each experiment was deployed in two nonprobability samples, collected sequentially. We collected the second sample to increase the study's sample size by 50% and reduce uncertainty surrounding key parameter estimates. The design for the two samples was otherwise identical. As pre-registered, we report results for the first sample alone and then for the combined sample.

The first sample recruited 3,765 US adults aged 18 years and older who passed two attention checks and multiple data-quality filters, all of which were pre-registered. The survey was fielded between March 3 and 6, 2024. The sample was collected via Cint (formerly Lucid), a platform that connects researchers to a pool of online research participants

drawn from various panel providers. Recent studies show that samples collected from Cint closely resemble the demographic and political makeup of the US population. They also replicate experimental results and include participants who are less professional and politically sophisticated compared to those from other nonprobability samples (Coppock & McClellan, 2019; Stagnaro et al., 2024). We employed quota sampling on marginals for age, gender, race, and region, based on the US Census. Data collection for the second sample followed the same procedures and took place from March 30 to April 3, 2024. The second survey added 1,865 respondents who passed pre-registered data-quality checks, resulting in a final analysis sample size of 5,630.

## Experimental design

We conducted two separate experiments to explore the moderating roles of cues and frames.

### Cue-taking experiment

In the cue-taking experiment, participants read (sequentially) about two (actual) bills that have been considered in the US Congress in recent years. Each subject was randomly assigned two bills from a pool of eight possible bills. These bills include: the “Equal Access to Contraception for Veterans Act”, “Protecting Older Workers Against Discrimination Act”, “Strengthening America's Security in the Middle East Act”, “Bring Jobs Home Act”, “Control Unlawful Fugitive Felons Act”, “Protecting American Lungs and Reversing the Youth Tobacco Epidemic Act”, “Marijuana Opportunity Reinvestment and Expungement Act”, and the “Safe and Accurate Food Labeling Act” (see [Supporting Information Online Appendix 3](#) for a detailed description of the bills). The US is a two-party system that has undergone a process of partisan-ideological sorting in the last several decades, with most elected Democrats now holding ideologically left-leaning policy positions and most Republicans favoring right-leaning positions. We aimed to select a set of bills that focused on single issues (thus excluding omnibus bills), of broad concern, concerning issues where salient positions are not overwhelmingly tied to either major party. This ensures that data about the partisan distribution of votes provides meaningful new information for the typical respondent. Additionally, we sought to include some bills supported more by Democrats than Republicans, and some bills supported more by Republicans than Democrats.

For each bill independently, each subject was randomly assigned to either receive or not receive information about the partisan distribution of the congressional vote on that bill. This was expressed as the percent of congressional Democrats and Republicans who voted in favor of the bill. For example, in the case of the “Equal Access to Contraception for Veterans Act”, all respondents saw the following description, and half of them were randomly assigned to the elite cue condition, and half were assigned to the control condition:

**All respondents:** In January of 2021, lawmakers introduced the “Equal Access to Contraception for Veterans Act.” Currently, most civilian healthcare plans allow women to gain access to birth control medications without paying out-of-pocket expenses. Yet, the Department of Veterans Affairs (VA)—which oversees military healthcare plans—requires female veterans to pay for birth control. This bill would prohibit the VA's practice of requiring female veterans to pay out-of-pocket. In total, 180,000 female veterans would be eligible to receive this expanded benefit.

**Control condition:** The bill passed the House on June 24, 2021. Of the representatives present in the House Chamber, 58% voted in favor of the bill, and 42% voted against the bill.

**Elite cue condition:** This bill passed the House on June 24, 2021. Of the representatives present in the House Chamber, 100% of Democrats voted in favor of the bill, whereas only 12% of Republicans voted in favor of the bill.

Finally, subjects were asked to indicate whether and to what extent they favor or oppose the bill, using a branching design, resulting in a seven-point scale.

We test two pre-registered hypotheses in this experiment:

**H1.** There is a positive interaction between openness and the presence of elite cues (versus no cues) on support for the Democratic Party's preferred position on a bill.

As explained in the introduction, personality openness is generally thought to promote left-wing political preferences. Consistent with recent work (Johnston et al., 2017), we test the additional hypothesis that party cues help citizens link personality to preferences on specific issues. If true, the relationship of openness to left-wing policy support should be larger when the Democrats are associated with the left-wing position (and Republicans with the right-wing position), compared to a condition without party cues.

**H2.** There is a positive three-way interaction among political engagement, openness, and the presence of elite cues (versus no cues) on support for the Democratic Party's preferred position on a bill.

This second hypothesis pursues a conceptual replication of recent work that finds *larger* effects of party cues for politically engaged citizens, compared with the unengaged (Johnston et al., 2017). If the engaged are more likely to link personality to partisanship, and if they care more about following party cues on specific issues, then we should see a positive three-way interaction. This would mean that the moderating effect of party cues on the relationship of openness to left-wing policy preferences is increasing as a function of engagement.

## Framing experiment

In the framing experiment, subjects read descriptions (sequentially) of two randomly selected political issues from a pool of four. These issues include the stringency of marijuana law, pharmaceutical regulations, genetically modified organism (GMO) regulations instituted by the federal government, and the importance of tariffs as a US foreign policy measure (see [Supporting Information Online Appendix 4](#) for a detailed description of the issues). We selected issues we thought most people would care about and understand, whose regulation or law-making can be framed in terms of strict vs. lenient policy approaches, and which were amenable to the various framing conditions described further below. We also tried to strike a balance across economic and cultural issues.

Independently for each issue, each subject was randomly assigned to one of nine conditions. Eight of the conditions correspond to eight possible pairs of opposing policy frames, and one condition is a control with no framing at all. Each pair of opposing frames includes two different stances that one could take when debating that issue along with justifications for those stances. For simplicity, and to match our personality variable of interest, we refer to the two types of justifications as “open” arguments and “closed” arguments. These include, for open and closed, respectively: freedom vs. protection, change vs. stability, hierarchy-attenuating vs. hierarchy-enhancing, and large circle of concern vs. small circle of concern.

These conceptual pairs were developed based on our reading of several related theoretical and empirical literatures. The freedom versus protection distinction is the focus of a recent

strain of literature on the structure of belief systems, which argues that needs for certainty and security structure political preferences along a freedom–protection axis of conflict (Malka et al., 2019). Change versus stability is perhaps the distinction most closely associated with the revival of interest in personality and ideology since the 2000s, as articulated in the influential work of Jost and colleagues (Jost et al., 2018), who argue that security and certainty needs drive support for policies that promote social stability. The distinction between hierarchy-attenuating and hierarchy-enhancing policies is closely related to the literature on social dominance theory (Sidanius & Pratto, 2001), and appears as a second dimension of ideology linked to needs for security and certainty in Jost et al. (2018) (in the form of support for status quo social and economic hierarchies). Finally, the contrast between large and small circles of concern was inspired by the distinction in Schwartz value theory between the parochial form of prosociality associated with benevolence values as compared with the expansive prosociality of universalism values (Schwartz, 1992). The former is a more “closed” form of altruistic concern, while the latter is more “open,” as seen in the fact that benevolence values are located closer (on the circumplex) to values associated with conservation (i.e., tradition, conformity, security), while universalism values are closer to those associated with openness to change (i.e., self-direction and stimulation).

For each issue, there is a set of four possible conditions—one for each frame pair—in which the “open” pole is associated with the lenient policy position and the “closed” pole with the stringent one. And there is a second set of four conditions for each issue in which the “open” pole is associated with the *stringent* policy position and the “closed” pole is associated with the *lenient* one. Thus, the experimental design fully crosses three variables: issue, frame pair, and policy position. Table 1 lists these three factors and their possible values.

Here is an example for the GMO issue condition:

**All respondents:** Genetically Modified Organisms (GMOs) are foods that are created through the use of genetic engineering. In other words, GMOs are food products whose genetic material has been manipulated by scientists in a laboratory. Whether the federal government should target regulations on the production and sale of GMOs has been a subject of debate in recent years. Below, arguments on both sides—for more strict or lenient GMO regulations—are considered.

**Freedom-lenient vs protection-strict condition:** Some people believe that GMO laws should be rather lenient. They believe that our priority should be promoting individual freedom. Lenient regulation of GMOs ensures that every person can decide for themselves what to put in their body.

TABLE 1 Framing experiment conditions.

| Issue                      | Frame pair                                          | Policy position                     |
|----------------------------|-----------------------------------------------------|-------------------------------------|
| GMO regulations            | Freedom vs. Protection                              | Open frame in the strict position   |
| Tariffs importance         | Change vs. Stability                                | Closed frame in the strict position |
| Marijuana regulations      | Hierarchy-Attenuating vs. Hierarchy-Enhancing       |                                     |
| Pharmaceutical regulations | Large Circle of Concern vs. Small Circle of Concern |                                     |
|                            | Control                                             |                                     |

Note: The three variables are fully crossed, forming a total of 36 different combinations (when the frame pair is control the policy position variable is irrelevant).

Other people believe that GMO laws should be rather strict. They believe that our priority should be protecting ourselves. Strict regulation of GMOs protects consumers from the risks associated with this technology.

**Protection-lenient vs freedom-strict condition:** Some people believe that GMO laws should be rather lenient. They believe that our priority should be protecting ourselves. Lenient regulation of GMOs protects our agriculture industry from risks associated with pests, disease, and environmental changes.

Other people believe that GMO laws should be rather strict. They believe that our priority should be promoting individual freedom. Strict regulation of GMOs ensures that every person can make a free and informed choice about what to put in their body.

After considering these opposing frames, respondents were asked to indicate their personal stance on the issue. If the respondent was assigned to the control condition, they were immediately directed to the questions after reading the brief overview.

We test one pre-registered hypothesis in this experiment:

**H3.** There is a positive interaction between openness and framing a policy as open (freedom, change, hierarchy-attenuating, and large circle of concern) versus closed (protection, stability, hierarchy-enhancing, and small circle of concern) on policy support.

## Variables

Following previous work (Ollerenshaw & Johnston, 2022), we measured four personality variables related to openness: authoritarian childrearing values (“authoritarianism”, indicating low openness; Feldman & Stenner, 1997, Stenner, 2005), the need for non-specific cognitive closure (indicating low openness; Kruglanski & Webster, 2018), openness to change (versus conservation) values (Schwartz, 1992), and openness to experience from the Big Five (McCrae, 1996).

Authoritarianism was measured by asking respondents to make eight pairwise comparisons of desirable qualities in children (Engelhardt et al., 2023). Need for non-specific cognitive closure was measured using 10 items taken from the short form Need for Closure Scale of Roets and Van Hiel (2011) (we used two items from each of the five subscales). Openness to change values was measured with five items from the Schwartz Portrait Values Questionnaire (Schwartz et al., 2001), two of which indicate openness to change and three of which indicate conservation values.<sup>3</sup> Openness to experience was measured with five items from the Big-Five Factor Markers (Goldberg, 1992).<sup>4</sup>

Consistent with Johnston et al. (2017), our focal independent variable is the *latent dimension underlying* these four personality variables. Specifically, we estimate a confirmatory factor analysis with the four personality variables as latent indicators of a single, superordinate latent dimension. Each set of personality items was restricted to load on its respective personality factor (e.g., childrearing items on the authoritarianism factor), and each personality factor served as an indicator of the superordinate latent dimension. As shown in [Supporting Information Online Appendix 7](#), all four personality variables are strongly correlated with the

<sup>3</sup>The Cronbach's alpha values for each measure, reported for the first and combined samples respectively, are as follows: Authoritarianism ( $\alpha = .73$ ,  $\alpha = .72$ ), Need for Closure ( $\alpha = .75$ ,  $\alpha = .75$ ), Big Five Openness ( $\alpha = .83$ ,  $\alpha = .83$ ), and Schwartz values ( $\alpha = .36$ ,  $\alpha = .35$ ). The low values for Schwartz are due to weak correlations between the indicators of openness to change and those of conservation. We address this issue in robustness checks reported in the supplemental appendix (see footnote 6).

<sup>4</sup>The full set of items can be found here: <https://ipip.ori.org/newBigFive5broadKey.htm>.

latent dimension in the way expected. Subjects' estimated factor scores on this superordinate dimension serve as our primary independent variable, which we label “openness” with higher values corresponding to higher openness.

In the main text, we focus our discussion on analyses using this latent variable as our measure of personality. We do this for a few reasons. First, the use of the single latent variable greatly simplifies analysis and interpretation, without forcing a choice among the diverse set of personality measures used in past work. Second, it is consistent with the literature's tendency to conceptualize this diverse set of variables as indicators of a smaller set of basic needs and traits (Johnston et al., 2017; Jost et al., 2018). Third, it replicates the measurement approach of prior work we are attempting to conceptually replicate (Johnston et al., 2017). Fourth, this is the measurement approach we pre-registered.<sup>5</sup>

Nonetheless, we recognize that this measurement approach ignores conceptual differences across the four personality variables and may obscure heterogeneity in how cues and frames moderate their relationship with policy support. Thus, in [Supporting Information Online Appendix 8](#), we re-estimate all analyses presented in the main text separately for each personality variable. The results are generally similar to the results for the latent dimension presented in the main text, but we discuss when they are different.

Following Johnston et al. (2017), we measure political engagement as the average of political knowledge and political interest, the former measured as the number of correct answers to seven factual questions about politics and the latter as the average of interest in politics and attention to political news.

In the elite cues experiment, the dependent variable is whether the respondent takes the Democratic Party's preferred position on each policy. This is measured by asking respondents whether they favor or oppose each policy, and then whether they favor or oppose them strongly or not strongly. If they answer “neither” in the first question, we ask whether they are closer to favoring, closer to opposing, or neither. We combine answers to form a seven-point scale, where “7” represents strongly favoring *the Democratic Party's preferred position* and “1” represents strongly favoring the Republican Party's position.

In the framing experiment, the dependent variable is how strict or lenient the laws regarding that political issue should be. We first asked respondents if the regulations regarding that issue should be strict or lenient and then whether they should be very or somewhat strict or lenient. If they answer “neither” in the first question, we follow up to ask whether the law should be a little bit strict, a little bit lenient, or neither. We coded the answers on a seven-point scale, where “7” is *very lenient* and “1” is *very strict*.

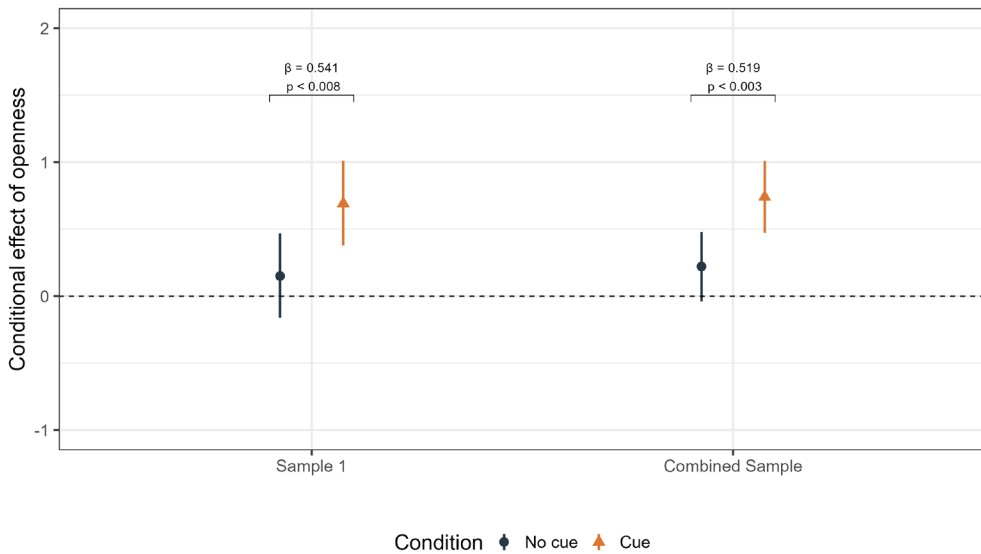
We measure, and include as predictors, several other variables, including age, gender, race and ethnicity, education, and income. Exact question wording for all items can be found in the [Supporting Information Online Appendix 2](#).

## RESULTS

### Study 1: Cues

We begin by assessing the moderating effect of party cues. To do this, we estimate a linear regression model of policy support on the interaction between having been assigned to the

<sup>5</sup>Our pre-registered measurement model attains relatively low levels of common fit indices. As a further robustness check, we re-estimate the measurement model with changes suggested by the largest modification indices, which entail moving two Schwartz items to the openness to experience latent factor and allowing their error terms to covary; and allowing the error terms to covary for four pairs of same-facet need for closure items. Doing so substantially improves the fit of the measurement model, but the results of our studies are the same. We report these results in the supplemental appendix ([Table 6C,D](#), and [Figures 8A–D](#)).



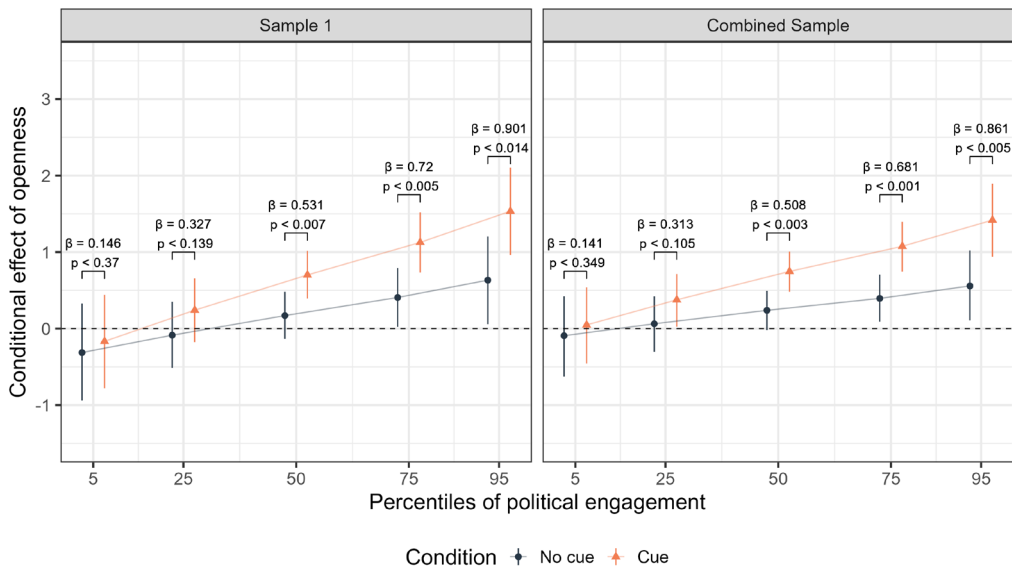
**FIGURE 1** Conditional marginal effect of dispositional openness on Democratic Party's preferred policy position by elite cues.

party cue condition (1) or not (0) with openness, along with their respective constituent terms. Each respondent independently received two policies, and standard errors are thus clustered by respondent. Consistent with the preregistration, we report results for both the first data collection separately and the first and second data collections combined. We include age, gender, black racial identification, Hispanic ethnic identification, educational attainment, employment status, and household income as additional predictors.<sup>6</sup> The model was estimated with ordinary least squares. Full regression tables, both with and without demographic controls, are available in [Supporting Information Online Appendix 5](#), showing similar results.

We calculated the conditional marginal effect of openness in each of the two-party cue conditions. These are plotted with 95% confidence intervals in [Figure 1](#). The dependent variable is coded from one to seven. Estimates represent the change in support for the Democratic Party's policy position for moving from the 5th to the 95th percentile of openness.

Party cues have a large moderating effect, increasing the size of the relationship between openness and policy support. This strongly supports Hypothesis 1. The difference in the conditional marginal effect between respondents who received party cues and those who did not was .541 ( $SE = .224$ ,  $p < .008$ ) in the first data collection and .519 ( $SE = .188$ ,  $p < .003$ ) in the combined sample. Both are substantively large and statistically significant. For example, the estimate for the combined sample implies that the presence of party cues increases the effect of openness (moving from the 5th to the 95th percentile) by slightly more than half a point (on a seven-point scale). The percent increase in the effect size of openness, comparing cues to control, is 460% in the first sample and 334% in the combined sample. The basic pattern of results is consistent when examining each of the four traits separately or an alternative measurement model specification, as shown in [Figure 8A](#) of the Supporting Information Online Appendix. The effect size is similar when using openness to experience from the Big Five and the Schwartz value dimension of "openness to change" as the independent variable, while the

<sup>6</sup>As pre-registered, we include demographic controls to reduce error variance and improve efficiency (Gerber & Green, 2012).



**FIGURE 2** Conditional marginal effect of dispositional openness on Democratic Party's preferred policy position by elite cues and political engagement.

measures of need for closure and authoritarianism appear somewhat smaller, but these differences across measures are not statistically significant.

We turn now to Hypothesis 2, which claims that the interaction of openness with party cues is larger at high (versus low) levels of political engagement. We estimated a second linear regression model that adds a three-way interaction among these three variables. Consistent with Johnston et al. (2017), we find that the effect of party cues is *larger* among politically engaged individuals. However, uncertainty regarding the interaction term is too high to be conclusive, and the interaction term is not statistically significant.

Figure 2 plots the conditional marginal effect of openness across levels of engagement, for the control and the cue conditions separately. At high levels of political engagement, there is a large and statistically significant moderating effect of party cues on the relationship between openness and support for the Democrat-supported policy position. For instance, at the 95th percentile of engagement, the difference in the estimated effect of openness (moving from the 5th to the 95th percentile) on policy support comparing the cues condition to the control is .901 ( $SE = .409$ ,  $p < .014$ ) in the first sample, and .861 ( $SE = .338$ ,  $p < .005$ ) in the combined sample. At the 5th percentile of political engagement, however, the difference is much smaller and statistically insignificant: .146 ( $SE = .441$ ,  $p < .37$ ) for the first sample and .141 ( $SE = .364$ ,  $p < .349$ ) in the combined sample. However, the statistically insignificant interaction term means that the slope of the line relating the moderating effect of cues (the  $\beta$ s in Figure 2) to political engagement is not itself statistically distinguishable from zero. Although the 95% confidence interval for the interaction includes 0 (the lower bound of the interval is  $-.29$  in the first sample and  $-.21$  in the combined sample), it also excludes most values in the negative range. This provides evidence against the presence of a large or moderately-sized *negative* interaction effect.

In sum, Study 1 finds strong evidence that party cues have a moderating effect on the relationship between openness and policy support. Respondents with higher levels of openness hold more left-wing policy positions on recent Congressional bills, but the size of this relationship is much larger when they are aware of the partisan distribution of the vote. Further, we find suggestive evidence that this moderating effect of cues is enhanced by political engagement.

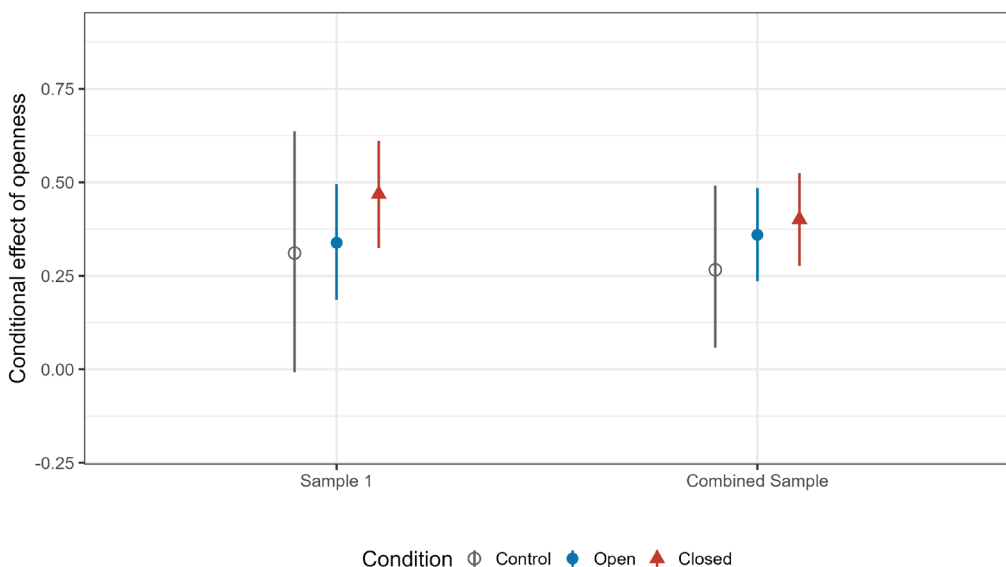
That is, party cues increase the size of the relationship of openness to policy support to a larger extent among the politically engaged compared to the unengaged. However, the uncertainty around the three-way interaction term is too large to draw strong conclusions, and further research is warranted.

## Study 2: Frames

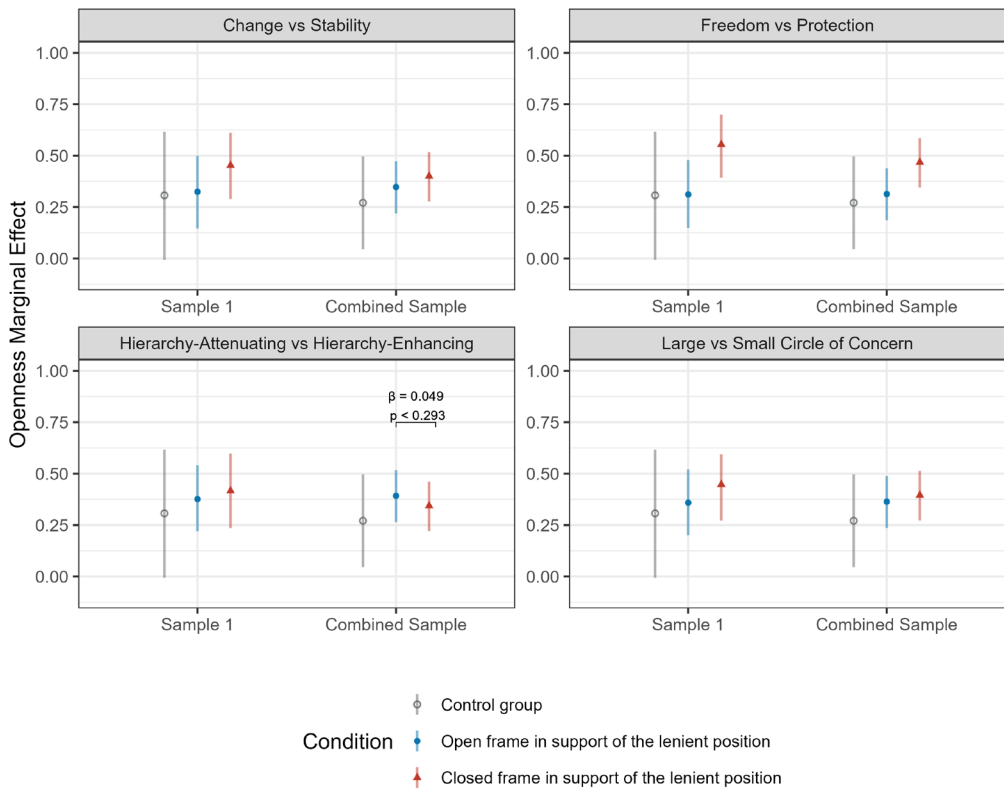
Study 2 examines the moderating role of framing a policy as open or closed. We estimated a hierarchical linear regression model with random intercepts for both respondents and frame conditions (of which there are nine), and random slopes for the coefficient on openness, which vary across frame conditions. The dependent variable is support for the lenient policy position on a seven-point scale. We regressed this variable on the interactions between openness and issue and openness and frame type. The latter variable specifies whether the respondent received an open frame for the stringent policy, a closed frame for the stringent policy, or was in the control condition. The model includes predictors for age, gender, black racial identification, Hispanic ethnic identification, educational attainment, employment status, and household income.

In line with H3, we expect that people high in openness will support the lenient policy more when it is framed as open than when it is framed as closed. Similarly, we expect people low in openness will support the lenient policy *less* when it is framed as open than when it is framed as closed. This hypothesis implies that the marginal effect of openness on support for the lenient policy will increase (move in the positive direction) when it is framed as open compared to when it is framed as closed. We are agnostic as to the *baseline* relationship between openness and lenient policy support in the control condition.

Figure 3 shows the conditional marginal effect of openness on lenient policy support in the control, open, and closed frame conditions, respectively. These estimates average over variation due to the type of frame (e.g., freedom vs. protection) and issue (e.g., marijuana policy). There is a positive relationship between openness and lenient policy support in the



**FIGURE 3** Conditional marginal effect of dispositional openness by framing condition.



**FIGURE 4** Conditional marginal effect of dispositional openness by pairwise framing.

control condition, with no exposure to frames. Our hypothesis test, however, concerns the difference in the relationship between the open and closed framing conditions. The results are in the *opposite* direction to H3: moving from the closed to the open framing condition is associated with a *decrease* (not an increase) in the marginal effect of openness on support for the lenient policy. Since we are using a one-tailed test for H3, the direction of the difference itself implies failure to reject the null.<sup>7</sup> In other words, there is no evidence that personality-targeted frames moderate the relationship between openness and policy support in the way expected by past theory.

However, it might be the case that some frames are relevant and others are not. To examine this, we disaggregated the results of Figure 3 by type of frame pair (e.g., change vs. stability). The results, shown in Figure 4, only reinforce those in Figure 3. In seven out of eight cases, openness has a larger positive marginal effect under the *closed* framing condition than under the open framing condition. In the remaining case, the estimate is in the expected direction, but small and statistically insignificant. We thus find no support for H3 when considering framing effects by frame type.<sup>8</sup>

<sup>7</sup>In the first sample, framing the lenient policy as open reduces the marginal effect of openness on support for the policy by .127 points ( $SE = .106$ ), compared to framing it as closed. In the combined sample, framing the lenient policy as open reduces the marginal effect of openness on policy support by .046 points ( $SE = .0826$ ), compared to framing it as closed.

<sup>8</sup>Interestingly, the marginal effect of openness is .247 ( $SE = .116$ ) larger when framing the lenient policy in terms of protection than in terms of freedom in the first sample, and .157 ( $SE = .081$ ) larger in the combined sample. While these are substantively meaningful changes, and the first would be statistically significant with a two-tailed test, they should be treated cautiously for a few reasons. First, we pre-registered one-tailed tests, so we fail to reject the null based on direction alone. Second, we pre-registered these additional analyses as *exploratory*, and so results are tentative and require confirmation in new samples.

## DISCUSSION AND CONCLUSIONS

Our study advances the literature on one of the central questions in political psychology: how personality relates to political attitudes. One of the central claims in this field is that individuals with higher needs for certainty and security tend to have more right-wing attitudes, while those with higher openness to experience and change tend to have more left-wing attitudes. Specific political issues, however, are often complex, and ordinary citizens tend to be uninformed. Under such conditions, personality is unlikely to have an unmediated, unconditional relationship with preferences, and the information environment is likely to play a critical role. Our article tests two mechanisms by which the relationship of personality to political attitudes may be moderated by political discourse: party cues and personality-targeted issue frames. We further explore the extent to which the cue-taking mechanism is conditional on political engagement, as predicted by past work.

Our results show the strongest evidence to date that party cues have a significant moderating role in shaping the relationship between openness and left-wing policy preferences. Across eight different US Congressional bills, the relationship between openness and left-wing policy support significantly increases when respondents are exposed to information about the partisan distribution of votes in Congress. Furthermore, we find suggestive evidence that party cues have a stronger moderating effect for politically engaged citizens, although further research is needed to confirm this finding. Though our evidence is rather strong that political engagement does not *decrease* the effect of party cues in this context, as some theories might suggest.

In contrast, we find little to no support for the claim that framing a political issue in terms that appeal to “open” (versus “closed”) psychological goals (e.g., change vs. stability) moderates the relationship of openness to policy support. Of course, this does not mean that no successful frames exist. Our study examines only a small set of issues and framing strategies, and more research on this topic would be useful.

In sum, we believe our results provide the most direct and comprehensive experimental test to date of the discursive mechanisms linking personality to political attitudes (Jost et al., 2009). In turn, we further understand the *contingencies* of the relationship of personality to political attitudes, which is a central concern of the contemporary literature (Arceneaux et al., 2024; Federico & Malka, 2018). Overall, our evidence suggests that the relationship between openness and policy preferences is strongly influenced by political identity-related mechanisms, but perhaps less so by the way issues are described. Specifically, we find a strong role for party cues in linking personality to preferences, but little evidence for a role of policy frames. Nonetheless, more research is needed to assess both the individual and contextual factors that moderate this relationship.

Our work also has several limitations. First and foremost, we study a single context (the US) at a single point in time (2024). It is important to explore whether our findings extend to other contexts, and the contextual variables that might moderate this. For example, are party cues as important in more fragmented political systems, with many more viable parties, or in systems where parties are defined less by ideological conflict? Second, we study a particular theoretical approach to understanding the relationship of personality to policy preferences, which emphasizes a broad dimension related to openness. This dimension has been the focus of most work over the last two decades (Jost, 2017), but there are other personality dimensions of interest. In particular, research highlights a relatively orthogonal dimension related to the Big Five's agreeableness, Schwartz value theory's self-transcendence, and social dominance theory's social dominance orientation (SDO). It would be useful to extend our investigation to this dimension.

Finally, several significant issues remain outstanding in this literature, and our work cannot speak to these. First, there is strong reason to believe that the link between personality and political attitudes is bidirectional (Bakker et al., 2021; Boston et al., 2018; Hatemi et al., 2019; Ludeke et al., 2016; Smith et al., 2017). That is, political attitudes and identities may shape

personality, at least as measured by self-reports. Our study cannot establish the causal sequence between openness and political identity. What we *can* say is that party cues have a causal impact on the *relationship* between openness and specific policy preferences. This is important in its own right because it is a key prediction of prominent frameworks for understanding the link between personality and politics. It also conceptually replicates prior work with a new sample, new design, and new set of issues, which is essential to establishing a set of robust stylized facts that can be taken as given for future theorizing. What is needed in this literature, we think, is data that goes back further in the developmental sequence, so we can observe the dynamic relationship of personality to politics during formative years.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in Open Science Framework at <https://doi.org/10.17605/OSF.IO/BZC43>.

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