





RESEARCH ARTICLE

Left–right political orientation fails to explain environmental attitudes of Europeans outside Western Europe: exploring the moderating role of party positions and issue salience

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ABSTRACT

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While conventional wisdom holds that right-wing individuals tend to present more negative attitudes toward environmental protection, McCright and colleagues (2016) find no clear relationship between political ideology and environmental attitudes in Central and Eastern Europe. The reason for this finding remains speculative. Our study expands on this phenomenon by exploring how party competition and, thereby, parties' focus on a specific issue moderate this ideology-environment link at an individual level across 28 European countries. Using individual level-data from the European Value Study and party-level estimates from the Chapel Hill Expert Survey, our findings emphasize that respondents' political orientation predicts their environmental attitudes more strongly when their preferred party prioritizes environmental issues. Notably, the left-right connection weakens when parties downplay environmental concerns, revealing why such issues have less impact in Central and Eastern, and Southern European political landscapes. This underscores the contextual boundaries of political ideology's explanatory power in diverse political arrangements.

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1. Introduction

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Environmental degradation and climate change constitute a particular challenge for democracies. While scientific evidence lays out a clear path for action, political actors are often hesitant, fearing that far-reaching policies to protect the environment and mitigate climate change may backfire among

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the public. With this in mind, understanding public opinion on environmental protection and climate change is essential to addressing potential concerns and realizing the necessary policies (Bernauer 2013, Prakash and Bernauer 2020). One prominent explanation of environmental attitudes is political ideology (see Hornsey *et al.* 2016). Despite the conservative roots of some crucial elements of environmentalist thought, contemporary conventional wisdom holds that right-wing ideology is associated with more skeptical views of environmental protection and climate change (McCright *et al.* 2016). While the general consensus is that a left-wing ideological position of individuals increases their pro-environmental attitudes (Neumayer 2004), political ideology offers a variety of dimensions and forms (e.g. Dunlap 1975, Van Liere and Dunlap 1983, Samdahl and Robertson 1989, Bean and Papadakis 1998, Neumayer 2004, Lengfeld and Gerhards 2008, Calzada *et al.* 2014, McCright *et al.* 2016, Jakobsson *et al.* 2018, Lockwood 2018, Huber 2020, Gugushvili 2021, Kulin *et al.* 2021). Individuals with right-wing views are expected to be more skeptical of environmental policies because these policies are seen as intervening in the market economy (Fairbrother 2017, Harring and Sohlberg 2017) or interfering with individual freedom (Jost and Thompson 2000). Thus, these individuals oppose far-reaching societal changes embedded in the sustainability agenda. Others, such as Clark *et al.* (2019) and Jylhä and Hellmer (2020), argue that views on society, in particular authoritarianism and social dominance orientation, explain right-wing individuals' attitudes toward the environment. Additionally, Lockwood (2018) as well as Huber (2020) have investigated the relationship between populism and climate attitudes, and found that populist views and party orientations may help explain attitudes towards climate and environmental policy. All these studies point in the same direction: right-wing political orientation is associated with weaker pro-environmentalism. In this contribution, we seek to understand whether this finding is universal and how competition (and, as a consequence, issue-salience) of political parties moderates the relationship between individuals' left-right orientation and environmental attitudes, measured by a question on whether respondents prioritize the environmental protection over economic growth.

The current literature provides limited insights into the universality of this observation. While empirical evidence points to a consistent relationship, there are reasons to be skeptical about the generalizability of these findings. As is true with environmental politics more generally (Prakash and Bernauer 2020), most political ideology and environmental politics studies focus on the United States, where elite polarization in the 1970s and 1980s led to mass polarization on environmental issues (Birch 2020). Given the specific character of party competition in the United States, it is difficult to generalize these findings beyond that case, and partisanship may, in fact, not be the best proxy for political ideology. While some studies examine other

cases, such as Canada (Walker *et al.* 2018), Australia (Tranter 2011), or selected European countries (Han 2020), they remain focused on the ‘West,’ where the political right is traditionally more skeptical of environmental regulation and the political left tends to have more pro-environmental views (Tranter 2011, Lachapelle *et al.* 2012, Birch 2020). The studies by McCright *et al.* (2016) and Fisher *et al.* (2022) are notable exceptions to the single-case study bias, offering one of the few cross-country studies investigating 25 European Union (EU) countries (see also Gelissen 2007).

Interestingly, while McCright *et al.* (2016) found substantial predictive power of political orientation, they did not identify a relationship between political ideology and climate attitudes in Central and Eastern Europe (CEE) as the Fisher *et al.* (2022) study did. McCright *et al.* (2016) speculated that this discrepancy could be due to issue salience and a different logic of party competition in CEE, leaving the exact causal mechanisms somewhat unclear and beyond the scope of their analysis. Nawrotzki (2012) investigated this regional divergence by delving into political and historical contexts. One important explanation lies in the party systems and dynamics of party competitions, which can influence how environmental policy is framed within the political sphere and individual political views. These political factors can weaken the generally negative relationship between conservatism and environmental concerns. While the studies mentioned above suggest that the relationship between left – right self-placement and environmental attitudes is not universal, their authors do not explicitly test why the relationship in CEE, Western Europe, and the United States is not uniform.

With this study, we challenge these two potential explanations outlined by McCright *et al.* (2016) and address them explicitly as follows. First, we investigate whether the relationship between left-right self-placement of individuals and their environmental attitudes is moderated by party-level competition on environmental issues. We argue that party competition and cues on environmental issues are core factors in explaining the differences in the strength of the above mentioned relationship between CEE and Western Europe. Specifically, we posit that left – right placement is a more decisive factor for explaining respondents’ attitudes toward the environment if their preferred political parties strongly emphasize the topic at hand. When parties, on the other hand, do not discuss the issue or actively de-emphasize it, we anticipate that political ideology is unlikely to inform attitudes on the matter. Second, by including information on party competition and party positions, we explicitly account for elite signals and understand party competition in more detail. This has especially developed in the US and Europe and is more visible in Western European countries where high competition and, therefore, more salient environmental attitudes lead to increased support for leftist parties: Green, Social Democratic, and New

Left. Taken together, accounting for the differences in party competition across Europe allows us to understand the differences between the predictive power of left-right self-positions for environmental attitudes in the West and the generally lower emphasis on environmental issues in CEE.

We test these refined theoretical expectations against data from the European Value Survey (EVS) Wave 2017 and Chapel Hill Expert Survey (CHES) Wave 2019. Our study confirms that left – right self-placement does not strongly predict the environmental attitudes of respondents outside Western and Northern Europe. Additionally, we observe that issue salience at the party-level is a powerful moderator of individuals’ attitudes toward environmental protection. We contribute to the literature by more explicitly investigating the theoretical and empirical boundary conditions constraining the relationship between political ideology and environmental attitudes.

2. Theoretical argument: how issue salience and party competition moderate the relationship between ideology and attitudes

As outlined above, the empirical link between political ideology and environmental attitudes is well established. Right-wing individuals are less supportive of environmental policy and more skeptical. This section outlines the theoretical rationale for why party competition and, subsequently, issue salience moderate this relationship. The core argument is that voters follow their respective parties. Hence, party competition will lead to higher issue salience. In the absence of salience in environmental issues, voters’ left-right placement is less associated with their environmental attitudes.

Our argument on the moderating effect of issue salience stems from research on political cleavages and party competition. Lipset and Rokkan (1967) state that political competition is structured around societal cleavages. Some systems may see contestation along one dimension, like in Western Europe after World War II, where the main cleavage was economical, spawning the left – right divide between dominant socialist and liberal-conservative parties. CEE has been argued to see contestation on the dimensions of pro-market, pro-democratic, and liberal views against statist, authoritarian, and illiberal views (Kitschelt 1992, Marks *et al.* 2006). However, Rohrschneider and Whitefield (2009) and Bértoa (2012) illustrated that the best way to understand party competition in CEE is through a combination of issue salience and party positions. This ‘structured diversity’ model is consistent with Kitschelt’s (1992) assessment of liberal or illiberal cleavage. However, it is concluded that country-specific circumstances explain the existence of other additional cleavages.

Issue salience plays an important role in identifying which public affairs are relevant. Lipset and Rokkan (1967), p. 35) argued that ‘decisive contrasts

[in the cleavage structure] among the Western party systems clearly reflect differences in the national histories of conflict and compromise.’ In other words, issues that are highly salient and contrast public opinion are most likely unresolved societal conflicts that structure political competition. Rohrschneider and Whitefield (2009) argued that issue salience is the core explanatory factor of cross-country variation in party systems and cleavage structure. It is not only about what positions parties take; we must also consider which issues parties stress in their communication with citizens. Parties, therefore, have a direct impact on the issues that individuals form strong opinions about.

Furthermore, party competition and, therefore, issue salience, as well as citizens’ issue positions, relate directly to each other. The argument that citizens process information through their party identification has received substantial attention in political science (see, among others, Evans and Andersen 2006, Berinsky 2007, Walgrave *et al.* 2014). This ranges from which evidence is considered correct (Bartels 2002), to the rejection of ideologically conflicting information (Gaines *et al.* 2007). Importantly, the relationship between individual attitudes on policies and partisanship seems endogenous. In other words, partisanship influences individuals’ policy positions and is affected by them (Dancey and Goren 2010). Some have additionally demonstrated that the effects are stronger for issues that individuals consider salient (Carsey and Layman 2006).

The above-mentioned arguments are mostly focusing on issue positions. We, however, are more interested in how partisanship shapes individuals’ issue focus. Importantly, some studies demonstrate that party positions and citizens’ issue priorities are endogenous (Hobolt and Klemmensen 2008, Neundorf and Adams 2018). Parties prioritize certain issues to compete with other parties (Budge and Farlie 1983). This relative salience of parties translates into policy priorities for citizens. Hence, party issue salience translates to partisans’ issue salience (and in reverse; see Neundorf and Adams 2018).¹

This evidence has implications for how left – right self-placement of party supporters relates to environmental attitudes. As the most prominent case, the United States sees extensive party sorting (McCright and Xiao 2014). As the two major political forces put forward contrasting views on the environment and climate change, the issue is highly salient and allows voters to form an opinion on the matter through party cues (Guber 2012, McCright and Xiao 2014). A parallel observation holds true for Western Europe, where the average issue salience of the environment among political parties is relatively high. Thus, we anticipate a societal conflict surrounding the topic of the environment, leading to the placement of the parties. Based on the literature, this should likely follow the left – right orientation. Right-wing parties take more skeptical positions regarding environmental protection, emphasizing

its economic and cultural costs. In contrast, left-wing parties demand more environmental protection (Neumayer 2004). 205

What happens if the environment is not a salient issue? Following the arguments by Lipset and Rokkan (1967) and the empirical investigation of Rohrschneider and Whitefield (2009), there should be little political contestation about environmental issues. As parties do not communicate positions on this issue (as it is unimportant for them), voters should not perceive clear party positions. Based on this discussion, we expect that the voters of parties with low salience regarding environmental issues will differ less in line with their political ideologies than those who support parties that emphasize the issue. Thus, our hypothesis is as follows: the strength of the relationship between left – right self-placement and attitudes toward environmental protection is stronger for individuals who support parties that emphasize the salience of the environmental issue. 210 215

3. Data and measures

3.1. Data 220

To test this hypothesis, our analysis uses three different data sources. We utilized data from the latest wave of the European Values Study (EVS) project (Wave 5, 2017) collected in 34 countries across Europe (EVS 2022) as our primary data source. It contains individual-level data on citizens' environmental and political attitudes, as well as information on which political party appeals to them most. Furthermore, we rely on the Chapel Hill Expert Survey (CHES) party-level estimates describing political parties' positioning on ideology, economic and policy issues, as well as issue salience (Jolly *et al.* 2022). Finally, we used World Bank Open Data (WB) to capture GDP per capita at the country-level. Using the EVS question on which party appeals to respondents most, we merged EVS data with CHES estimates and finally incorporated WB data on GDP per capita at the country level. 225 230

Note that combining different datasets reduced the number of countries and respondents initially covered by EVS. First, we excluded data from Armenia, Azerbaijan, Belarus, Georgia, and Russia. The political systems are either not democratic, or these countries are not placed in Europe. As a result, the category 'Eastern Europe' covers EU member states east of Germany and is identical to the usual definition of Central-Eastern Europe. The category 'Southern Europe' includes long-time European Community members, such as Italy and Spain, and various countries from the Western Balkan, making the category heterogeneous. Second, we limited our sample to a subset of a) respondents who answered EVS questions on which political party appeals to them most and b) political parties characterized by CHES experts. Table SM1 in the 235 240

supplementary online appendix (henceforth, SOA) provides descriptive characteristics of the combined data, including the sub-sample sizes obtained from the EVS for analysis.² 245

3.2. Measures

3.2.1. Dependent variable

The dependent variable is based on the EVS question describing the dilemma of prioritizing environmental protection against economic growth, asking the respondents to select (1) ‘Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs’ vs. (2) ‘Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.’ The available EVS dataset also provides ‘other answer’; we treated all three hidden response categories as missing values. This measure was selected out of the total of eight EVS environmental indicators as the most relevant for our research design and most appropriate to capture significant pro-environmental values, particularly a willingness to protect the environment, even if that means economic sacrifices. Notably, the *economic growth vs. the environment* dilemma is a primary cleavage in environmental politics identified already in the ‘limits of growth’ debate central to the definition of sustainable development.³ 250 255 260

3.2.2. Independent variables: left-right self-placement at the individual level and issue salience at the party level

Two predictors are central to our hypothesis: respondents’ self-placement on left-right scale and party-level issue salience. Left – right orientation was measured in the EVS by asking respondents to position themselves along a left – right 10-point rating scale ranging from 1 (left) to 10 (right); we standardized the original scale by calculating z-scores across all countries and respondents. In turn, the CHES estimate of ENVIRO-SALIENCE describes the salience of environmental sustainability in the party’s public stance on a scale ranging from 0 (no importance) to 10 (great importance). We assigned the environmental salience score of the party from the CHES (see 3.1 Data section) a respondent prefers according to the EVS. 265 270 275

3.2.3. Covariates at the individual level

Following previous studies on people’s attitudes toward protecting the environment (e.g. Marquart-Pyatt 2012, Fairbrother 2013, Combes *et al.* 2018), we adjusted for individuals’ total household net income. Household income was measured by providing the respondents with a list of 10 categories (scored by numbers ranging from 1 to 10) corresponding to the deciles of the actual distribution of household income in each country and asking them to indicate to which income decile their household 280

belongs. ‘Do not knows’ was treated as missing values. We also standardized the original scale through z-transformation across all countries and respondents. 285

In addition, we included gender, age, and respondents’ level of education. Gender was indicated as 0 (woman) and 1 (man), while age – expressed in the number of years – was divided by 10 to avoid small numbers in the regression coefficient estimates. Note that the EVS groups respondents 82 290 years and older in one category. Finally, the level of education was measured by implementing the International Standard Classification of Education (ISCED; for details, see Schneider 2013) with four categories: (1) ISCED 0–1, (2) ISCED 2, (3) ISCED 3 (the reference category), and (4) ISCED 4–6.

3.2.4. Covariates at the party level 295

To capture the level of party competition, our analysis includes three party-level characteristics derived from the CHES: LRECON, GALTAN, and ENVIRONMENT. The LRECON estimates (ranging from 0 [extreme left] to 10 [extreme right], with middle point 5 [center]) classify national parties in terms of their stance on economic issues, such as privatization, taxes, 300 regulation, government spending, and the welfare state. In turn, GALTAN posits political parties on a scale ranging from 0 (Libertarian/Postmaterialist) to 10 (Traditional/Authoritarian) (with middle point 5 [center]) regarding their views on social and cultural values. While libertarian (or postmaterialist) parties favor expanded personal freedoms, traditional (or authoritarian) 305 parties reject these ideas in favor of order, tradition, and stability, believing that the government should be a firm moral authority on social and cultural issues. Finally, ENVIRONMENT estimates position parties on an environmental sustainability scale initially ranging from 0 (strongly supports environmental protection even at the cost of economic growth) to 10 (strongly 310 supports economic growth even at the cost of environmental protection). As we wanted greater values to represent a more pro-environment position, we inverted the original scale values so that 10 meant that the party strongly supported environmental protection.

3.2.5. Country-level contextual variables derived from WB 315

Our descriptive analysis uses the GDP per capita information derived from the WB repository. The distribution of the GDP is highly skewed (mostly low-GDP countries) with outliers among high-GDP observations (e.g. Iceland, Norway, and Switzerland). We log10 transformed GDP per capita. Moreover, in the descriptive part of our study, we categorize countries into 320 four groups defined following WB terminology (i.e. Eastern Europe, Southern Europe, Northern Europe, and Western Europe). For information about each country’s assignment to specific regions, please see Table SM1 in SOA.

3.3. Analytical approach

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We estimated separate multilevel cross-sectional logistic regressions to recognize the hierarchical structure of the combined EVS – CHES – WB data, with respondents nested within 216 national political parties and 28 countries. Note that besides the exclusions of EVS participant countries we described previously in the data section, we excluded Portugal, as the EVS question on the respondents' household total net income was omitted in the Portuguese questionnaire. Additionally, our final reduction of the EVS net sample for regression analyses came from a complete case analysis with listwise deletion of all cases with missing values in any variable and a decision to include only data for political parties with at least 10 indications in the EVS data. The latter was motivated by the need for a reasonable number of party voters to assess within-party variability in the respondents' attitudes toward prioritizing protecting the environment over economic growth. We applied a weighting factor in all regression analyses, as provided in the EVS data.

We defined the dependent variable ENV_{ijk} such that $E(ENV_{ijk} = 1) = \pi_{1ijk}$ is a probability that respondent i who feels close to party j in country k will prioritize protecting the environment over economic growth. Additionally, we transformed these probabilities by the logit link function, where the logit coefficient $\eta_{ijk} = \log(\pi_{1ijk}/(1 - \pi_{1ijk}))$ is the log of the odds of the event $ENV_{ijk} = 1$, as opposed to $ENV_{ijk} = 0$. Our assumed cross-classified model is as follows:

$$\eta_{ijk} = \beta_0 + \gamma_j + \gamma_k + (\beta_1 + \gamma_{1:k})\Lambda_{ijk}^1 + \beta_2\Lambda_{ijk}^2 + (\beta_3 + \gamma_{3:k})\Gamma_{jk} + \beta_4\theta_k + \beta_5(\theta_k \times \Lambda_{ijk}^1) + \beta_6(\Gamma_{jk} \times \Lambda_{ijk}^1) + \beta_7(\theta_k \times \Gamma_{jk})$$

where β_0 is a grand intercept, γ_j and γ_k represent between-party and between-country random intercepts, respectively, $\gamma_{1:k}$ and $\gamma_{3:k}$ denote random components of between-country variation in slopes for respondent-level and party-level covariates, respectively, β_1 is a vector of regression coefficients on all respondent-level covariates expressed as Λ_{ijk}^1 , β_2 is a vector of regression coefficients on respondent-level control variables expressed as Λ_{ijk}^2 , β_3 is a vector on regression coefficients on party-level characteristics expressed as Γ_{jk} , β_4 denotes a country-level contextual variable θ_k , and β_5 , β_6 , and β_7 indicate regression coefficient for cross-level interaction terms. We assumed that the random effects are mutually independent and are normally distributed with zero mean such that $\gamma_j \sim N(0; \sigma_j^2)$, $\gamma_k \sim N(0; \sigma_k^2)$, $\gamma_{1:k} \sim N(0; \sigma_{1:k}^2)$, and $\gamma_{3:k} \sim N(0; \sigma_{3:k}^2)$

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We built our regression models step-by-step. We started with the null model (which excludes all explanatory and contextual variables but assumes random intercepts between parties and countries), allowing us to assess the proportion of variance attributed to the respondents (i.e. residual variance), parties, and countries (see the intraclass correlation coefficient [ICC]). Following the recommendation by Hox *et al.* (2010), we expressed the ICC for parties and countries as follows:

$$ICC_{parties} = \frac{\sigma_j^2}{\sigma_j^2 + \sigma_k^2 + \pi^2/3}$$

$$ICC_{countries} = \frac{\sigma_k^2}{\sigma_j^2 + \sigma_k^2 + \pi^2/3}$$

where σ_j^2 and σ_k^2 are between-party and between-country variance components, respectively.

In subsequent Models 1, 2, 3, and 4, we allowed for random intercepts between parties and countries, but we restricted the slopes of the regression coefficient to be equal. Model 1 includes two respondent-level variables (i.e. left – right scale and household income), while Model 2 additionally adds the gender, age, and educational level of the respondent. Model 3 adds party-level variables, positioning parties regarding their views on social and cultural values (GALTAN) and indicating the importance of environmental sustainability in the party’s public stance (ENVIRO-SALIENCE) and contextual country-level GDP per capita. Model 4 keeps all the variables but adds cross-level interactions to the regression. In other words, the model with interactions checks whether ENVIRO-SALIENCE moderates the impact of the left – right scale on the probability of prioritizing by the respondents protecting the environment over economic growth. This estimate is essential for testing our hypothesis. It also checks whether GDP at the country level moderates the impact of a) both individual-level explanatory variables and b) ENVIRO-SALIENCE on the likelihood of prioritizing protecting the environment. We did not include the interaction between GDP and GALTAN, as we found that GALTAN’s beta coefficient estimation was not statistically significant (see Table 2 in Section 4.2). Finally, Model 5 allows for random slopes (i.e. we released beta coefficients between countries for left – right, household income, and ENVIRO-SALIENCE); thus, we checked whether random effects impact fixed effects observed in previous models.

It can be noticed that Models 3, 4, and 5 incorporate only two of the four party-level characteristics that we initially chose for analysis (i.e. the GALTAN and the ENVIRO-SALIENCE), leaving out the LRECON and the ENVIRONMENT. This decision was motivated by several factors. First, we observed that the differences between the four

extracted regions of Europe were higher for GALTAN and ENVIRO-SALIENCE than for the other party's characteristics (see SOA, Figure SM2). Second, we found that ENVIRO-SALIENCE strongly correlated with ENVIRONMENT (the Pearson linear correlation was equal to 0.808). Thus, including both variables instead of one could introduce the problem of collinearity in the regression analyses and the risk of model overfitting and loss of precision. Third, the direction of the relationship between the LRECON and the mean fraction of the party electorate prioritizing protecting the environment over economic growth differed in European regions (see SOA Figure SM3), and the models' fit statistics worsened when we included the LRECON scale in the regressions.

All analyses were performed in the R Project for Statistical Computing (R Core Team 2021), and we implemented the following packages for data analyses and visualization: *tidyverse* (Wickham *et al.* 2019), *haven* (Wickham and Miller 2022), *ggplot2* (Wickham 2016), *labelled* (Larmarange 2021), *sjPlot* (Lüdecke 2021), *flextable* (Gohel 2021), and *lme4* (Bates *et al.* 2015).

4. Results

4.1. Positioning of European parties on the importance of environmental sustainability in the party's public stance

In Figure 1, we present the distribution of experts' estimates for the European party's positions on the importance of environmental sustainability in the party's public stance (ENVIRO-SALIENCE). Each point represents one political party included in the analysis; the point's size is the share of respondents who support a given political party within each country under investigation, with distinctive colors for the extracted regions of Europe. Besides plotting points, we also included boxes indicating the first quartile, the median, and the third quartile of the party's positions within a given region, and whiskers showing the range on the non-outlying positions (i.e. deviating from the regional median to 1.5 of the interquartile range).

The distribution of political parties' positions on the importance of environmental sustainability strongly differentiates the agendas of political parties' programs in the highlighted regions of Europe. More political parties in Northern and Western European countries pay far more attention to environmental sustainability issues than countries in the eastern and southern parts of the continent. Most explicitly, the third quartile of environmental issue salience is substantially below 5 in Eastern Europe (meaning CEE), suggesting that most parties do not emphasize the issue. This evidence, in turn, has informed one of our initial assumptions about the moderation of

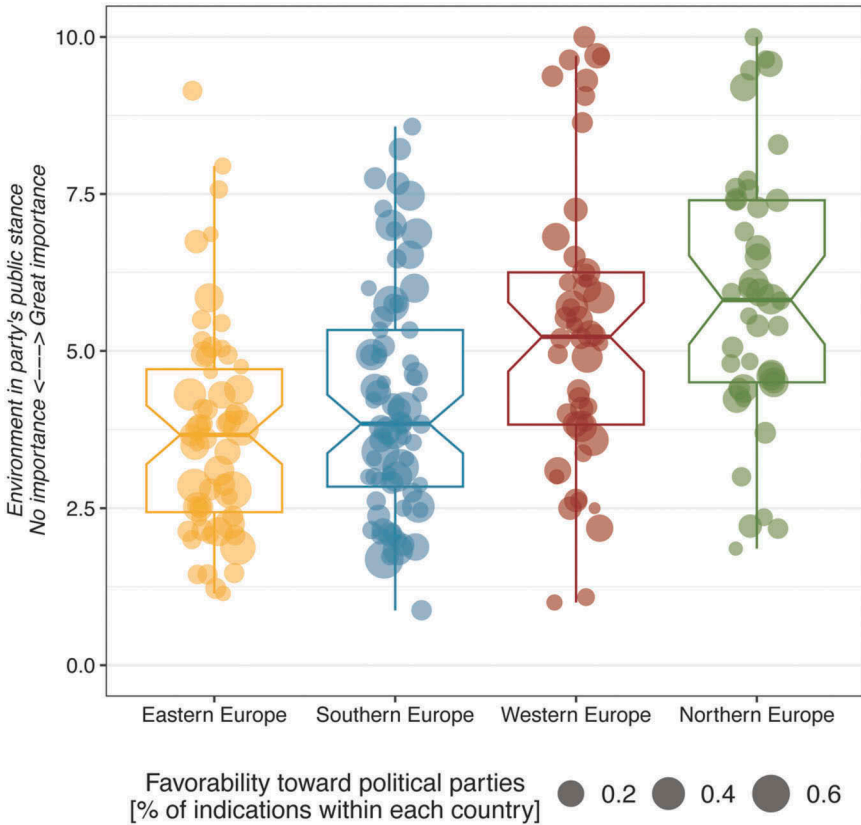


Figure 1. Distribution of the party's positions on the importance of environmental sustainability in the party's public stance by region of Europe (CHES data).

the relationship between ideological and environmental attitudes by parties' position – we observe the stark interregional variation of issue salience.

Figure 2 visualizes the correlation between the fraction of party supporters prioritizing protecting the environment over economic growth (y-axis) and the importance of the environment in the party's public stance (x-axis). Correlation plots are split into four panels, each representing one of the four regions of Europe. In addition, dashed lines represent the linear correlation between variables on axes, and a gray shadow is the 95% confidence interval of the regression line. We also provided information on Pearson's linear correlation coefficient values, with p-values signifying the correlation's significance level.

In all four regions covered by our study, a significant positive correlation can be seen between an electorate focused on environmental protection over economic growth and the importance of environmental issues in party programs. In other words, there is a positive

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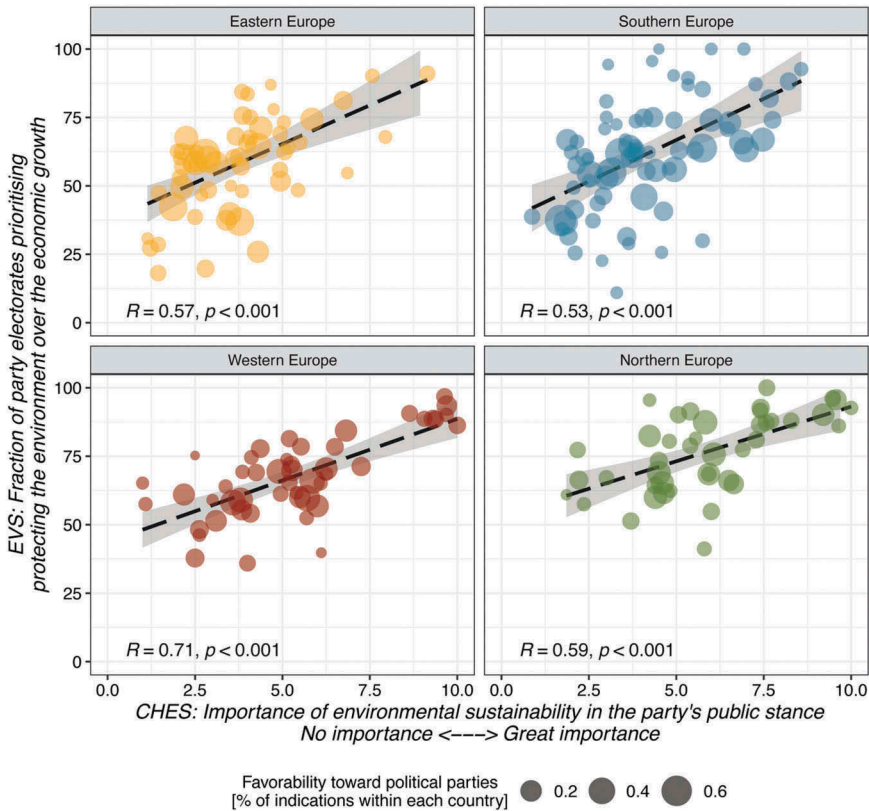


Figure 2. Correlation plot for a fraction of party electorates that prioritizes protecting the environment over economic growth (EVS) and the party's public stance (CHES data).

relationship between the salience of environmental issues and attitudes toward environmental protection vs. economic growth in all four regions.

Nevertheless, there is substantial variation between regions regarding the level of support. The size and location of the electorates prioritizing environmental protection over economic growth in the case of Eastern (and Southern) Europe are clearly shifted toward the middle of the graph (with a relatively broad representation of supporters of economic growth, especially in Lithuania, Poland, and Romania). The case is different for Northern and Western Europe, where one can clearly see, first, a more proportional distribution of the electorate and, second, especially in Northern European countries, a much higher salience of environmental issues. If environmental concern shapes public support for environmental protection in parties' public stances, this phenomenon can also explain differences in electoral distributions across European regions. This descriptive evidence is in line

with the expectations outlined above. We investigate the relationship more systematically in the next section.

4.2. Cross-sectional multilevel logistic regression analysis

Table 1 summarizes the multilevel logistic regression analysis for predicting the probability of prioritizing protecting the environment over economic

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Table 1. Regression results: standardized odds ratios and their standard errors in parentheses.

Regression terms	Null OR (SE)	Model 1 OR (SE)	Model 2 OR (SE)	Model 3 OR (SE)	Model 4 OR (SE)	Model 5 OR (SE)
Intercept	1.925*** (0.252)	1.917*** (0.245)	1.801*** (0.226)	2.028*** (0.177)	1.894*** (0.169)	1.868*** (0.165)
EVS: Left – Right self- placement (z-score)		0.836*** (0.015)	0.839*** (0.015)	0.855*** (0.015)	0.794*** (0.016)	0.795*** (0.018)
EVS: Household income (z-score)		1.135*** (0.017)	1.062*** (0.017)	1.063*** (0.017)	1.079*** (0.018)	1.076** (0.029)
EVS: Gender [Male = 1]			0.974 (0.014)	0.975 (0.014)	0.979 (0.014)	0.980 (0.014)
EVS: Age			1.013 (0.016)	1.015 (0.016)	1.014 (0.016)	1.013 (0.016)
EVS: educational level EISCED 0–1 [vs. level 3]			0.688*** (0.046)	0.690*** (0.046)	0.694*** (0.045)	0.697*** (0.046)
EVS: educational level EISCED 2 [vs. level 3]			0.879** (0.035)	0.881** (0.035)	0.872*** (0.035)	0.876*** (0.035)
EVS: educational level EISCED 4–5 [vs. level 3]			1.457*** (0.055)	1.440*** (0.054)	1.419*** (0.054)	1.418*** (0.054)
CHES: GALTAN				1.005 (0.054)	0.997 (0.050)	1.007 (0.050)
CHES: ENVIRO-SALIENCE				1.518*** (0.092)	1.409*** (0.082)	1.434*** (0.092)
WB: GDP per capita (log10)				1.265** (0.105)	1.344*** (0.115)	1.366*** (0.116)
ENVIRO-SALIENCE * Left – Right					0.889*** (0.021)	0.888*** (0.021)
ENVIRO-SALIENCE * HH income					1.078*** (0.021)	1.072*** (0.022)
GDP per capita (log10) * Left – Right					0.924*** (0.017)	0.929*** (0.020)
GDP per capita (log10) * HH income					1.006 (0.018)	1.002 (0.027)
GDP per capita (log10) * ENVIRO-SALIENCE					1.100* (0.052)	1.155** (0.062)
ICC total	0.198	0.182	0.170	0.084	0.078	-
ICC parties	0.099	0.084	0.075	0.042	0.034	-
ICC countries	0.099	0.098	0.095	0.042	0.044	-
N respondents	24,067	24,067	24,067	24,067	24,067	24,067
N parties	216	216	216	216	216	216
N countries	28	28	28	28	28	28
Marginal R2	0.000	0.011	0.024	0.126	0.147	0.170
AIC	27307.43	27154.13	26974.02	26882.17	26793.28	26793.13
log-Likelihood	-13650.72	-13572.06	-13477.01	-13428.08	-13378.64	-13369.56

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. The dependent variable is probability of prioritizing environmental protection over economic growth.

growth, with six models of increasing complexity specified in the Methods section of the article. The order of introducing variables into the regression models reflects our judgment of causal ordering between variables. Note that regression coefficients were transformed into standardized odds ratios using the natural exponential function; thus, the value above 1 indicates that the predictor increases the probability of prioritizing environmental protection over economic growth. We also included information on whether the regression coefficients for the regression terms were statistically significant (asterixis), and we calculated standard errors for subsequent coefficients.

We discuss the ICC coefficients and the fit statistics for subsequent models in SOA Section 4. Here, we present arguments related to our main hypothesis. All subsequent regression models suggest that individuals' left – right political orientation strongly predicts environmental protection over economic growth, with left-wing respondents having a higher likelihood of favoring environmental protection over economic growth. For individual-level covariates, we found that household income and education were significantly related to the dependent variable, whereas the impact of the gender and age of the party's supporters remained negligible. Regarding variables at the party- and country-level (see Models 3, 4, and 5), we found that the party's position on the GALTAN scale does not significantly impact the average probability of prioritizing the environment by parties' electorates, but ENVIRO-SALIENCE does. This already hints at the importance of environmental salience, which is the core moderator of our theoretical model. Additionally, GDP per capita significantly affects the country-level averages of the outcome variable, which may be partially the consequence of the tradeoff among country-level GDP, post-materialist societal orientation, party competition, issue salience, and environmental protection (e.g. Dunlap and McCright 2008, Cao and Prakash 2012).

From the point of view of our hypothesis, we are mostly interested in the interaction between environmental salience at the party level and left – right self-placement at the individual level. We anticipate that the relationship between left – right political orientation and environmental attitudes is stronger among individuals whose preferred party strongly emphasizes the environment. Hence, the coefficient of interest is the interaction term 'ENVIRO-SALIENCE * Left – Right' in Models 4 and 5. In line with our hypothesis, we found that the environmental issue salience in the party's public stance moderates the relationship between individuals' left – right orientation and their attitudes toward environmental protection. We consider this strong evidence to be in line with our argument.

To simplify the interpretation of the moderating role of the relative salience of environmental sustainability in the party's public stance, based on Model 5, we plotted the marginal effects of interactions between ENVIRO-SALIENCE and individual-level explanatory

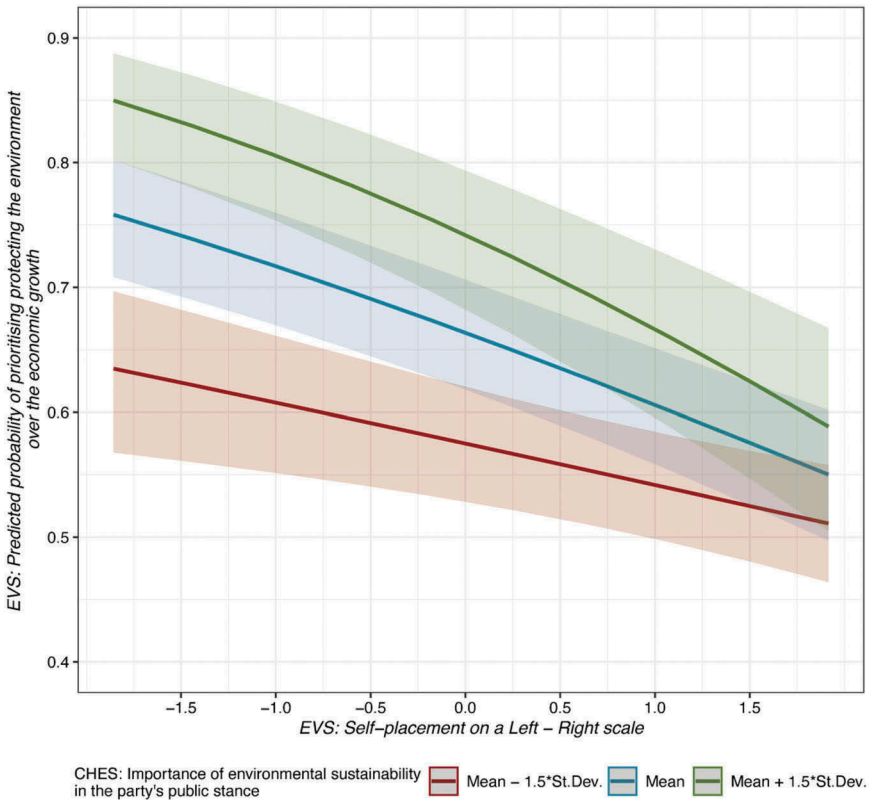


Figure 3. The moderating effect of ENVIRO-SALIENCE on the relationship between left-right self-placement and the outcome variable.

variables. Therefore, [Figure 3](#) illustrates how the likelihood of prioritizing environmental protection over economic growth among Europeans depends on the respondents' left - right political orientation (with moderation based on the selected party characteristic). The predictions are visualized for three hypothetical levels of ENVIRO-SALIENCE: 1) the green curves represent the relationship between explanatory variables and predicted probability of prioritizing protecting environment over economic growth for the electorate of the hypothesized party that is 1.5 standard deviation above the mean value of ENVIRO-SALIENCE (i.e. for a party with relative high salience of environmental sustainability in their public stance), 2) the blue curves represent the association for the electorate of a party at the mean value of ENVIRO-SALIENCE, and 3) the dark-red curves means the association for a party at 1.5 of standard deviation below mean for all parties under investigation (i.e. this for which environmental

sustainability in their public stance is relative on a low level of importance). In addition, the shading areas around a given curve show a 95% confidence interval for the predicted probability. 530

As visualized, the slope of the curves for respondents' left – right self-placement is substantially flatter for individuals who support parties with lower salience to the environment. This means that the effect of left-right self-placement is substantially weaker for this group. In contrast, when the party emphasizes the topic, the relationship between left – right political orientation and the outcome variable strengthens. Whereas right-wing individuals seem to value environmental protection similarly, regardless of their preferred party's level of environmental salience, a stark difference occurs among left-wing individuals. Here, those who support parties without a focus on the environment are more likely to support environmental protection than right-wing voters (the predicted probabilities are roughly 0.63 compared to 0.51). In contrast, the aggregate relationship is substantially stronger among individuals who support parties with a strong emphasis on the environment (predicted probability equal to 0.85 for left-wing voters compared to 0.59 for their right-wing counterparts). In other words, party issue salience (in combination with self-placement on a left-right scale) is a significant factor. 535 540 545 550

5. Discussion and conclusions

This article scrutinizes one conventional wisdom in the study of public support for environmental policy: the consistent finding that left-wing individuals display more pro-environmental attitudes than their right-wing counterparts. However, the current research lacks a structured investigation of the boundary conditions and hence offers a limited understanding of the universality of political orientation as a predictor of environmental attitudes. McCright *et al.* (2016) pointed to a substantial variation in the predictive power of political orientation, especially low in CEE countries, and speculated that this might be explained by issue salience. In this article, we seek to provide a comprehensive framework to explain this puzzle by making the moderating role of party competition and, therefore, issue salience explicit. We argue that the differences between Western Europe and CEE are due to the different structures of political competition. To this end, we derive theoretical expectations based on cleavage theory and party competition and argue that left – right self-placement should more strongly relate to environmental positions if the environment is a salient issue for voters' preferred party. Our analyses of 28 European countries based on data from EVS Wave 2017 and CHES Wave 2019 allowed us to problematize the 555 560 565

relationship between political orientation and environmental protection in Europe. 570

Our findings suggest that party competition and, thus issue salience of the environment strongly moderates the relationship between left – right self-placement. Individuals affiliated with both left- and right-wing ideologies, whose preferred political parties prioritize the environment to a minimal extent, exhibit significantly fewer differences when compared to their counterparts supporting parties with a strong emphasis on environmental issues. This speaks to regional differences in Europe, as we observe substantial variation in terms of the salience of the environment. Political parties in Northern and Western Europe pay more attention to environmental sustainability than their Eastern and Southern counterparts. 575 580

These findings have important implications for the nexus of political ideology and environmental attitudes. While the existing literature is firmly focused on the United States and Western Europe, our results question the generalizability of this relationship. The issue of the environment is strongly salient and polarized, both in the United States and Western Europe. For example, Republicans in the United States strongly emphasize environmental issues; however, they advocate against strong measures that may affect economic growth. Thus, there are clear party cues that voters can take up and translate their left – right self-placement to positions in the environment. Voters may be unable to do this when parties do not discuss the matter. Our findings thus suggest that while political orientation predicts environmental stances, its effect size is conditioned by party competition, and thereby, issue salience imposes an important boundary condition for the relationship. 585 590 595

This study also has some limitations. We needed to operationalize environmental protection as a unified construct that could oppose economic development, not leaving much space to nuance this relationship, e.g. by considering the green growth paradigm. Furthermore, left-right placement is measured at the individual level, while environmental issue salience at the party level. Although environmental salience is not available on an individual level in the ESS, our argument mostly rests on party competition, and the signal parties send to their voters by actively discussing certain issues but not others. Ideally, future research can draw on both individual and party level measures. Another issue is the question of scale: individuals might have different priorities regarding their local environment, environmental protection at the national level, and its global dimension. In addition, our analysis treats climate change as an element of general environmental protection, whereas there is growing evidence that traditional environmental issues can be seen as valence issues, whereas climate change is more partisan (Farstad 2018). More research is necessary to disentangle the potential differences in predictive power of left-right placement, and climate and environmental 600 605 610

attitudes. Particularly, differences may stem from different levels of issue salience across various cases.

Future research should further examine the universality of the role of political orientation as a predictor of environmental attitudes, ideally offering more extensive datasets than dominant Western-centric approaches. Moreover, it should additionally problematize salience as a distinct dimension that should be included in standard survey tools (Crawley *et al.* 2019). Recognizing the nuances in the relationship between political ideology and environmental attitudes in Europe will be necessary to tackle many of the ‘grand challenges’ and further develop and implement the EU’s green agenda.

Notes

1. Mullinix (2015) suggest that elite cues have a stronger effect on preference formation, the stronger the partisan identification is (see also Lavine *et al.* 2012, Morin-Chassé and Lachapelle 2020). Importantly for our argument, however, it does not seem to be the case that Central and Eastern Europe substantially differs from Eastern Europe in how party competition operates. Ibenskas and Sikk (2017) find that while Central and Eastern Europe deviated strongly from Western Europe, patterns are increasingly aligning and build stronger party organisation (see also Tavits 2013). Additionally, research suggests that Central and Eastern European party systems are as polarised as their Western European counterparts; hence positive partisanship is similarly relevant (Reiljan 2020). Indirectly, issue salience of other parties could also drive issue salience. Hobolt and Klemmensen (2008) demonstrate how Danish leader speeches affect citizens’ issue priorities.
2. Table SM2 in SOA presents a fraction of EVS respondents excluded from analysis due to inconsistency of party list in EVS and CHES data; Tables SM12 and SM13 in SOA show EVS parties covered by CHES and those excluded from our analysis.
3. It must be noted that few European parties, even on the Left, would boast anti-growth or even de-growth agendas. Our operationalization emphasizes the dilemma and trade-off between environmental protection and unlimited economic growth.

Data availability statement

The data that support the findings of this study are openly available in OSF repository at <https://osf.io/p4dwz>

Disclosure statement

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655

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