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# Social identities in climate action

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## Abstract

With the increasingly hazardous effects of climate change on nature and humanity, a key question in social science research is how to foster climate action, i.e., individual and collective behavior towards containment of negative consequences of climate change. Even political measures adopted by associations, political parties, governments, and governing coalitions, as well as by private stakeholders and companies, are decided upon by individual actors. Therefore, to understand and promote climate action, it is indispensable to shed light on the driving forces of individual behavior with a specific focus on what leads them to align their actions with the expected (positive) consequences on the environment. A key challenge is that individual behavior only limitedly follows a rational weighing of costs and benefits. Instead, deeply anchored beliefs, situational constellations, emotions, and the identification with social groups have been found to be significantly influential on individual action. This contribution presents a short review of the psychological roots of climate action and emphasizes the relevance of social identities. It thereby sets out a theoretical framework to explain climate action at the individual yet political level and provides empirical evidence for the role that social groups play in explaining and guiding climate action. The focus on social groups holds important implications for practitioners.

**Keywords:** Environmental policy, EU decision-making, Political behavior, Qualitative comparative analysis (QCA)

## Introduction

Climate change is one of the greatest challenges of our time. How to combat it is a key question of (social science) research. Until today, there are many insights into why individuals do not act in a climate-friendly way or why they do engage in climate action. Actor-level factors fostering climate action are increased knowledge (Diederich and Goeschl 2014), information, and risk perception (O'Connor et al. 1999), but also climate change beliefs, although the influence of each of these is contested (van Valkengoed and Steg 2019). Explanations hindering climate action on an individual level are often ascribed to the perceived lack of individual efficacy, dissatisfaction with political strategies, and climate skepticism (Haltinner and Sarathchandra 2018).

In order to foster climate action, it is necessary to not just understand what hinders it and explain so far lacking individual action in mitigating climate change, but

also to reveal how such action can be encouraged (Steg 2018). There is evidence that knowledge, information, and firm beliefs about climate change exist but that these do not translate into respective behavior (Hall et al. 2018). As a consequence, studies call for a more citizen-centered approach for formulating solutions (Kythreotis et al. 2019; Tvinnereim et al. 2017) and point towards the importance of groups and norms in promoting citizens' action (Hornsey and Fielding 2020).

Connecting to this research gap, this contribution argues that a focus on social identities and group memberships of individuals can help in not just explaining climate inaction, but in designing strategies to promote more climate-oriented behavior. Besides setting out the theoretical mechanisms in which social identities are connected to climate action, two empirical analyses assess the explanatory power of social group memberships for climate-oriented behavior at a political level. These answer the question of which social identities determine climate action when salient. Climate action is thereby

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mainly understood as the individual behavior of policy actors that contributes to the adoption of measures that are designed to support this reduction. Policy actors are those that are directly involved in the policy-making process and have a substantial influence on decision-making. There exists a large body of research on the role of social identities for individual behavior intended to reduce negative consequences for the environment (Clayton and Manning 2018), so this article is especially intended to transfer the social identity perspective to the political context. In doing so, it contributes to the analysis of climate action strategies that are increasingly subject to public policy research (Holm and Berardo 2020; Koski and Siulagi 2016), but also to the interdisciplinary exchange on how to promote climate action.

The remainder of this article is structured in two main parts, followed by a comprehensive conclusion. The “[Social identities in climate action](#)” section is devoted to the theoretical foundation of the social identity approach and its relevance in guiding individual behavior in societal and political contexts, as well as in climate action. The “[Research design](#)” and “[Social groups driving climate action in the European Parliament](#)” sections encompass an empirical test of the identity-driven motivations for climate-oriented action. The discussion and conclusion summarize the results and call for further research on social identities in environmental and climate policy.

### Social identities in climate action

Climate inaction is not found to result from misinformation about the negative consequences of human behavior. Instead, research shows that different cognitive mechanisms, such as rational fallacies, beliefs, and attitudes, prevent individuals from translating their knowledge about the climate-related consequences of their actions into behavioral change (Naustdalslid 2011; Stoknes 2015). The past years hence have seen an increase in research on how to put knowledge into action (van Buuren et al. 2015). In the context of socio-ecological transformations, for example, research has focused on how to achieve a sufficiency orientation with individuals striving to consume less (Tröger and Reese 2021). However, to achieve such transformation, there is still the need to systematically connect psychological theories and embed them in interdisciplinary research at the intersection with, e.g., political change (Wullenkord and Hamann 2021). Specifically related to the transformation of socio-ecological systems, a perspective on identities puts particular attention to the existence of a global identity (Loy et al. 2021), often defined as a “shared identity as human beings” (Manuel-Navarrete and Buzinde 2010, p. 143), or on collective identities

resulting from local place attachment (Escalera-Reyes 2020) to effect climate action.

This theoretical part reviews, firstly, the social identity approach and what related research teaches us about climate (in)action at the individual level and, secondly, demonstrates to what extent social identities can be transferred as an analytical lens on policymaking.

### Foundations of the social identity approach (SIA)

The SIA comprises both the social identity theory (SIT), originally developed by Tajfel (1974), and the self-categorization theory (SCT), developed by Turner (1982) with a stronger focus on the self-categorization of individuals (Turner et al. 1987). In its original understanding, the SIT is a theory of intergroup relations, hypothesizing that individuals who share the identification with a social group will align their actions in a way that it is beneficial to their own group. At the same time, they will demarcate themselves from the members of other groups. This behavior is assumed to result from the parallel wish of individuals to distinguish themselves from other individuals and to be the same as other individuals, labeled optimal distinctiveness (Brewer 1991).

Building on this view, the SCT postulates that an individual’s behavior depends on the personal and social identities in a given moment, depending on the one they categorize themselves in at that moment (Abrams et al. 1990). An important aspect of self-categorization is the context that triggers an inter-group comparison and activates in-group stereotypes that guide individual behavior, which underlies personal values and thereby environmental values (Rabinovich et al. 2012). This means that in a situation where different social groups are visible and accessible to the individual, they will automatically self-categorize to one group and behave according to the norms and values connected to this group (Oakes et al. 1991).

### Social identities and climate action

Until now, the SIA has been predominantly applied to citizens and leaves a gap to explore it also at a political level of decision-making. Through empirical tests of the “four motivational pathways to collective action,” Bamberg et al. (2015, p. 156) show that social identity is a stronger predictor of climate action, operationalized as the participation intention in pro-environmental initiatives, than cost-benefit calculations, perceived efficacy, and group-based emotions, although the effect of all pathways is significant. In addition to the comparative assessment of the explanatory power of social identities vs. other theories of collective action and related theories (see also Fielding and Hornsey 2016), scholars have built and empirically tested theoretical models that distinguish different aspects of the social identity perspective

(Rees and Bamberg 2014). For example, the Social Identity Model of Pro-Environmental Action (SIMPEA) combines the strength of social identification, in-group norms, group-based emotions, collective efficacy beliefs, and the perceived threat posed by the environmental crisis in an integrative explanatory model for climate action (Fritsche et al. 2018; Masson and Fritsche 2021). These studies focus on pro-environmental behavior as one component of climate action, because the latter comprises any “activities and behavior of individuals, groups, and organizations [...] deliberately directed at preventing or reducing climate-related damages to society” (Tosun 2022, p. 1). The mechanisms through which social identities influence pro-environmental preferences and behavior run through group norms, social influence, and efficacy and emotions associated with collective action (Mackay et al. 2021).

Acknowledging the shortcomings of psychological explanations for climate (in)action, the existing literature already includes a perspective on collective endeavors to mitigate climate change. An important strand of this research is the focus on networked climate governance, where climate action is not understood as a hierarchical strategy, but where it is governed by a multitude of state and non-state actors. Networked climate governance also explicitly outlines the relevance of citizen initiatives and institutional venues (Tosun and Schoenefeld 2017), but also of public-private partnerships (Bäckstrand 2008; Pattberg 2010). Such research already outlines the need to analyze climate action at multiple levels: society, politics, industry, science, and others.

### **Social identities in the policy process**

While there exists robust empirical research on the relevance of social identities to citizens' climate action and increasingly to constructive identity-based leadership after climate change disasters (Jetten et al. 2021), the SIA has not yet been applied to climate action at a political level of decision-making. Only recently has the perspective of social identities found entry into public policy research to enrich the explanation of individual preferences and behavior in policy contexts (Hornung et al. 2019). This includes an important turn in arguing the relation between collective actors on the one side, and individual preferences and behavior on the other. Instead of assuming that individuals join groups because the group represents a large part of their pre-existing norms and values, the perspective on social identities hypothesizes that social groups shape individual norms and behavior, attitudes, and values (Hogg et al. 2008). Thus, policy actors are hypothesized to conform with their salient group norms when deciding on policies, and researching which groups are salient under which

conditions allows for revealing the underlying rationales according to which policy actors think and act.

It can be assumed that the way in which social groups influence the preferences and behaviors of individuals differs with respect to whether policy actors or citizens without touch points with politics are concerned. Members of parliaments, for example, are elected representatives of the people, and their electorate and should vote in the interests of their voters. Ideally, they are only bound by their conscience. In parliaments and parliamentary elections, however, political parties often have an important role in recruiting politicians and in internally allocating power resources, such as duties and appointments, which can complicate an individual policy actor's loyalty. For politicians, their membership in politics-related groups, such as political parties, is therefore supposedly more salient than a political party membership for someone who does not do politics as a profession. In national and supranational bodies, politicians also represent their region or country for which they have been elected or appointed. A national or regional identity, however, is rarely the most salient for people who are only in contact with people from the same state or region on a usual day. From a psychological point of view, this is due to the lack of an adequate “outgroup”—there is no need for people to distinguish themselves from another national or regional group, if the people that surround them share this identity. Therefore, it is highly relevant to research how a social identity affects the behavior of policy actors and whether there is a systematic group-related bias that contradicts the view of policy actors as democratic representatives of the people's interests.

Empirical evidence on how policy actors make decisions based on their salient group identification is yet under-provided. This is partly because gathering valid information on the social identity salience of policy in different situations is challenging. Because direct questionnaires and interview data are hardly accessible for a comprehensive sample of decision-makers, policy researchers often rely on secondary data, such as discourses, speeches, and voting behavior, to make statements about the drivers of policy actors' behavior. From a social identity perspective, it is therefore useful to rely on the objective identification of social group memberships on a macro-level and to assess the influence they have on policy actors' behavior.

### **Social identities in climate action at a political level: model and expectations**

It is important to note that a social identity perspective on political behavior does not claim to holistically explain climate action but rather to complement existing rational choice considerations and other factors of

climate-oriented behavior. This article's main research interest is to unravel the social identities of policy actors that are salient when deciding on climate action and to test whether these identities systematically determine their vote. Consequently, and derived from the literature, the theoretical model expects especially two distinct social groups to determine the preferences and behavior of policy actors. Figure 1 presents these identity types, and how they relate to decision-making on climate action is elucidated below.

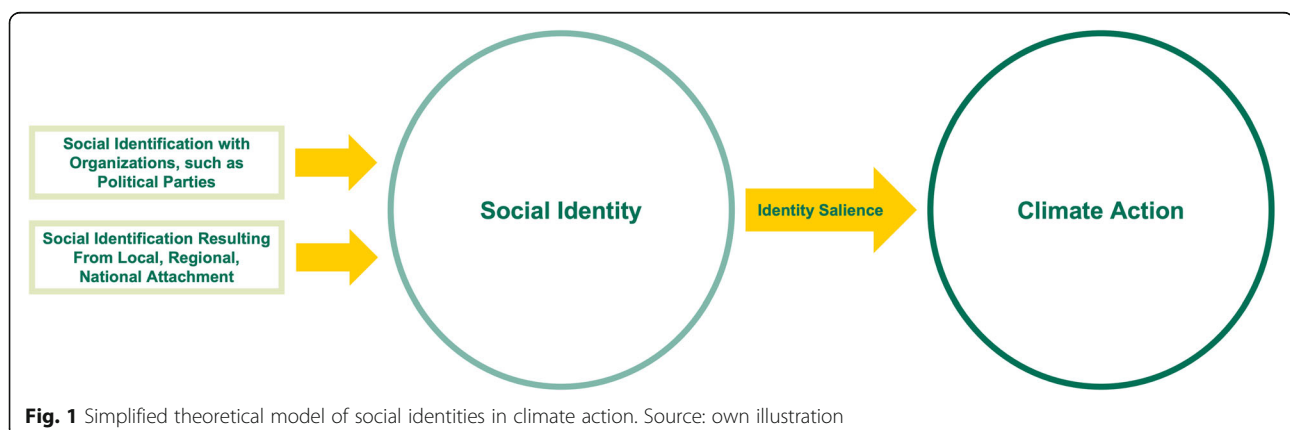
The general idea of bringing the social identity perspective to public policy research is that social group memberships are one explanation for policy actors' behavior and preferences. When thinking of the relevant group memberships of policy actors, the role of political parties immediately comes to mind. Many political systems are essentially shaped by political party competition, and political parties play a central role in the formation of policy preferences. In parliamentary decision-making processes, the partisan identity is particularly relevant, not only because of the frequent obligation to vote in accordance with the party, but also because of its source for social identification. As Raymond and Overby (2014) show by controlling for leadership-based effects and individual preferences, purely belonging to a party group results in strong party-cohesive behavior, which they associate with the party labels that convey an identity. Parliamentary party groups, which are affiliations of political parties in parliaments, should thus determine decision behavior oriented towards climate action if their name entails an orientation towards climate-friendliness. This is the case for the Greens/European Free Alliance (Greens/EFA) and Confederal Group of the European United Left–Nordic Green Left (GUE-NGL). *Therefore, I expect members of these parliamentary party groups to vote in favor of climate action.*

However, besides the partisan identity, and especially if the topic to be decided on is not subject to party

competition, as climate change partly is (Farstad 2017), other social identities can determine the behavior of policy actors. Devine-Wright et al. (2015) show that if individuals identify themselves on a global rather than national scale, they are more likely to favor climate action. This suggests the relevance of a national identity. From a multi-level perspective, it may be the case that specific regions take a stronger stance on climate action than others. For example, the European Union presents an institution that regularly sets goals and measures to combat climate change. However, its member states have different positions on the topic of climate change and request action to different degrees. Consequently, *country representatives of states that already set high standards of environmentally oriented regulations, such as Sweden and Estonia* (Wysokińska 2014, p. 96), *may advocate more climate action than representatives of states that by themselves set lower standards.*

### Research design

To empirically assess the social group memberships that lead to one or the other stance on climate action, the empirical analysis turns to a case in which a multitude of social identities may theoretically contribute to climate action: the European Parliament (EP). This also corresponds to a multilevel perspective on climate change action (Irepoglu Carreras 2019) and the prominence of climate change issues in the parliament (Vogeler et al. 2021). Members of the European Parliament (MEPs) democratically represent both their member state and their political party within the parliamentary groups of the EP and are also potentially influenced by their previous experiences in policy-related commissions, their professional biographies, and demographic characteristics. The analysis will focus on the relevance of those social groups that are expected to be particularly pertinent to decision-making regarding climate change and action: parliamentary groups and member states. It will investigate which social group membership



**Fig. 1** Simplified theoretical model of social identities in climate action. Source: own illustration

was decisive for a MEP's decision to engage in climate action.

### Method

Methodologically, the analysis relies on qualitative comparative analysis (QCA). QCA is a method originally invented by Ragin (1987) that has increasingly gained prominence in social science research over the last decades (Fischer and Maggetti 2016; Sager and Thomann 2017). It is focused on revealing causal conditions for the occurrence of an outcome (observed phenomenon). To do so, it compares different cases with different configurations of conditions and the presence of the outcome to be explained. Based on set theory, a QCA assumes that a case can only be a member (calibrated as 1) or a non-member (calibrated as 0) of the set of cases in which the phenomenon is present and in which a condition is present. This results in a truth table that lists for each case the membership (1) and non-membership in conditions and outcome. Following Boolean algebra and minimization processes, conducting a QCA entails breaking down the combinations of conditions in a logical way that reveals causal explanatory pathways for the outcome that do not contradict each other.

Central to a QCA is the distinction between necessary and sufficient conditions. Necessary conditions are those that are present in every case in which the outcome also is present. Sufficient conditions are those whose presence always results in the presence of the outcome. Necessary conditions are thus a superset of the outcome, while sufficient conditions are a subset of the outcome. When identifying necessary and sufficient conditions, the coverage and consistency values each indicate the extent to which these set memberships are perfect (i.e., do not contradict each other because empirical cases stand against this set relationship) and the amount of cases they cover, which equals the empirical relevance of a configuration (Ragin 2006). There exists a vivid debate on the threshold that should be considered when identifying necessary and sufficient conditions. For a crisp-set QCA, that is for dichotomous calibration of membership (1) and non-membership, the consistency values should ideally be higher than 0.9, and the literature suggests to not accept any consistency value lower than 0.75. As regards coverage, this value helps to assess whether set relations are trivial or whether they add an important explanatory pattern. Therefore, coverage values should not be too high and not too low, but there are no definite coverage values that should be attained, since the interpretation strongly depends on the research design (Schneider and Wagemann 2010).

### Justification for QCA as the chosen method

QCA was originally designed for medium-N studies, but the application to large-N samples is not excluded if acknowledging the original idea of QCA, among which are the focus on the causes of an outcome, and the idea of equifinality and configurational causality (Fiss et al. 2013). Furthermore, especially when using large-N data, the case orientation runs the danger of getting lost, which is why robustness tests are recommended to underpin the results (Emmenegger et al. 2014). However, the choice of QCA for large-N data has advantages, which also apply to this article's empirical case.

Firstly, the method provides the advantage of equifinal explanations for positive (and negative) votes on a climate action resolution. This means that depending on the MEP, a different identity may have been salient and thereby decisive for their vote on the resolution, which is in line with the theoretical foundation of self-categorization. A quantitative method would assess the average effect that a specific identity has on the vote decision—which is an equally important question, but not the interest of this article. Thus, the choice of QCA is the best fit to answer the research question which social identities are salient in climate action.

Secondly, and relatedly, the ontological understanding of a QCA fits the theoretical model of deterministic causality. If an identity is salient in the moment of voting, this results deterministically in a particular vote. Applied to the question of what drives climate action in the EP, it is of relevance to reveal the condition that regularly leads MEPs to a specific voting decision. Understanding this mechanism enhances our understanding of how climate action comes about, how it can be enforced, and what prevents it.

Thirdly, the choice of QCA allows us to identify configurations of different conditions that in combination lead to an outcome. Quantitative research offers only limited possibilities here, e.g., through the calculation of interaction effects. However, in researching climate action in the EP, it is of interest to see whether, e.g., Social Democrats from Spain vote differently than Social Democrats from Germany. As it is indeed the combination of social identities that is of interest here, I apply QCA to the large-N sample of 665 MEPs.

### Data and operationalization

The outcome of climate action is operationalized as the decision on the non-legislative resolution "Climate and Environmental Emergency" (European Parliament 2019), voted on in November 2019. The resolution was passed prior to the UN climate conference in December 2019 with the aim to declare a climate and environmental emergency, calling on member states and the European Commission to urgently take action. It demanded

immediate action to limit global warming to under 1.5°C and avoid massive biodiversity loss. To address these environmental and climate challenges, the EP demands the involvement of all sectors of society including industry to find socially balanced and sustainable solutions. The resolution was quite controversial among the MEPs. It was approved with 426 votes in favor, 223 votes against it, and 17 abstentions. Especially because it is a non-legislative resolution, one can assume that MEPs' votes reflect their honest opinion and are not biased towards any outside interests, because non-legislative resolutions carry a particular agenda setting symbolic (Burns and Carter 2011).

To perform the analysis, the vote of all MEPs at the time of the resolution's treatment in the EP is registered and calibrated respectively (crisp conditions for yes, no, abstain). Additionally, the macrolevel social identities of each MEP are calibrated, with each a condition for the parliamentary groups and the member states (as shown in Additional file 1); 1 designates membership, 0 designates non-membership. The parliamentary groups in the EP are the Group of the European People's Party (EPP), Group of the Progressive Alliance of Socialists and Democrats (S&D), Group of the Alliance of Liberals and Democrats for Europe (ALDE), European Conservatives and Reformists Group (ECR), Confederal Group of the European United Left/Nordic Green Left (GUE-NGL), Group of the Greens/European Free Alliance (Greens), Identity and Democracy Group (IDG), and Renew Europe Group (REG). Additionally, the individuals who do not belong to such a group are calibrated as non-attached (NI). The analysis also considers that committee membership could be relevant to the voting behavior of parliamentarians, as existing research shows that voting on environmental policy differs for members of the agricultural (and not environmental) and members of the environmental (but not the agricultural) committee (Vogeler et al. 2020). The performed QCA follows the guide provided by Oana et al. (2021) and is conducted using the respective packages in R (Dusa 2020).

### **Social groups driving climate action in the European Parliament**

Conducting a QCA proceeds in several steps. The first step is the analysis of necessary conditions for the outcome to identify potentially relevant conditions that occur whenever the outcome occurs. This analysis is always carried out for the presence of the outcome, but also for the absence of the outcome. In the special case of the European Parliament vote on a resolution, there is a qualitative distinction between voting "not yes" and voting "no," because of the possibility to abstain. Therefore, the analysis of necessary conditions is conducted for three alternative outcomes ("yes," "not yes," "no").

Afterwards, a QCA turns to the analysis of sufficient conditions, which is connected to a trial-and-error procedure of identifying the relevant conditions that are sufficient for the outcome to occur. That means, whenever such a condition or a configuration of conditions is observed, the outcome is also observed. Here, the analysis is again conducted for the different outcomes.

The overall results confirm some expectations but not all. Especially the relevance of partisan identities is outlined by the analysis of necessary and sufficient conditions. The members of parties with "green" labels opt for climate action. National identities also determine voting behavior in favor of climate action, but in this case, the expectation which country identifications are leading was not met. Instead of the environmental leaders, especially smaller countries and those with areas by the sea shape identities that result in climate action. The results of the analysis are presented in detail in the following.

Starting with the analysis of necessary conditions for a vote in favor of the resolution (= yes), it is at first sight striking that almost all conditions tested for necessity have a consistency value of greater than 0.9 when being absent. That means that the absence of the condition is necessary for an individual voting "yes." The only conditions that do not appear in the list of being necessary when absent are the country condition of Germany, as well as the parliamentary groups of the European People's Party, Socialists and Democrats, the Renew Europe Group, and the Greens. This is paradoxical at first but becomes more understandable when testing the conditions necessary for not voting "yes" or voting "no." It appears that to engage in climate action in the European Parliament, it is necessary that one is a member of the Social Democrats, the Greens, or the Renew Europe Group. Or, put the other way, being a member of the European Conservatists and Reformists, the European People's Party, the Identity and Democracy Group, or no parliamentary group is necessary for not voting yes and (with an equally high consistency value) for voting no on the proposal. The results of the analysis of necessary conditions are shown in Tables 1 and 2. The condition column lists the memberships of the MEPs in the social groups. The outcome column shows that the analysis of necessary conditions has been performed for the vote in favor of the resolution and therefore observed climate action. The consistency value designates the extent to which membership in the group of the outcome (voting yes) is a subset of the membership in the respective social group. The coverage value indicates to how many cases the respective necessary condition applies.

Because of the very large N in this QCA, the analysis of necessary conditions is less straightforward in its interpretation. It is almost impossible that a single condition or even a combination of conditions reaches a

**Table 1** Analysis of necessary conditions for the outcome “yes”

Condition	Consistency value	Coverage value	Outcome
~European Conservatists and Reformists	0.993	0.695	Yes
~European United Left/Green Left	0.906	0.617	Yes
~Identity and Democracy Group	0.998	0.708	Yes
~Non attached	0.958	0.642	Yes
~Austria	0.979	0.644	Yes
~Belgium	0.967	0.638	Yes
~Bulgaria	0.984	0.644	Yes
~Croatia	0.986	0.639	Yes
~Cyprus	0.986	0.636	Yes
~Czech Republic	0.986	0.647	Yes
~Denmark	0.981	0.638	Yes
~Estonia	0.988	0.638	Yes
~Finland	0.981	0.639	Yes
~Greece	0.974	0.640	Yes
~Hungary	0.955	0.629	Yes
~Italy	0.927	0.656	Yes
~Ireland	0.974	0.634	Yes
~Latvia	0.991	0.640	Yes
~Lithuania	0.984	0.640	Yes
~Luxembourg	0.988	0.637	Yes
~Malta	0.988	0.637	Yes
~Netherlands	0.960	0.639	Yes
~Poland	0.979	0.671	Yes
~Portugal	0.958	0.630	Yes
~Romania	0.958	0.639	Yes
~Slovakia	0.988	0.640	Yes
~Slovenia	0.988	0.640	Yes
~Sweden	0.974	0.640	Yes
~UK	0.908	0.625	Yes

**Table 2** Analysis of necessary conditions for the outcomes “~yes” and “no”

Condition	Consistency value	Coverage value	Outcome
European Conservatists and Reformists + European People’s Party + Identity and Democracy Group + non-attached	0.925	0.709	~Yes
European Conservatists and Reformists + European People’s Party + Identity and Democracy Group + non-attached	0.924	0.658	No
~Socialists/Democrats* ~Renew Europe Group* ~Greens* ~European United Left/Nordic Green Left	0.925	0.709	~Yes
~Socialists/Democrats* ~Renew Europe Group* ~Greens* ~European United Left/Nordic Green Left	0.924	0.658	No
~Socialists/Democrats* ~Renew Europe Group* ~Greens	0.925	0.629	~Yes

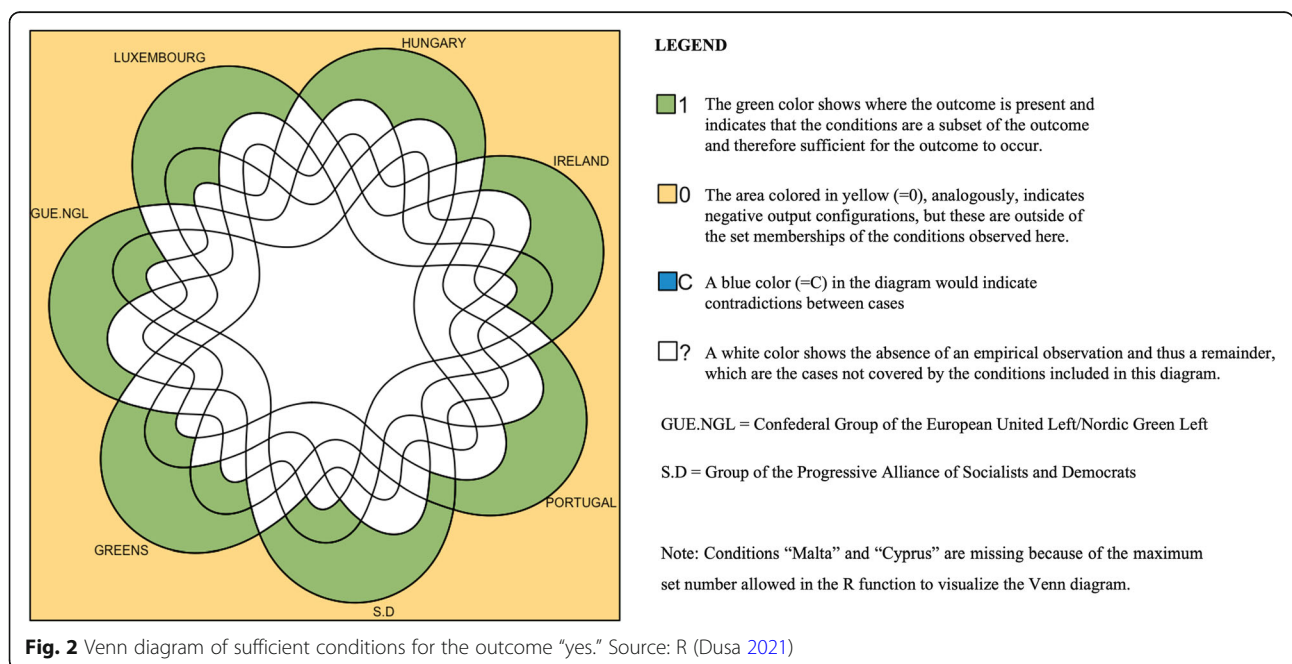
**Table 3** Analysis of sufficient conditions for voting “yes”

	inclS	PRI	covS	covU
European People’s Party*Belgium + European People’s Party*Slovakia + European People’s Party*Spain	1.00	1.00	0.040	0.040
Renew Europe Group*Austria + Renew Europe Group *Belgium + Renew Europe Group *Bulgaria + Renew Europe Group *Croatia + Renew Europe Group *Estonia + Renew Europe Group *France + Renew Europe Group *Latvia + Renew Europe Group *Lithuania + Renew Europe Group *Netherlands + Renew Europe Group *Slovakia + Renew Europe Group *Spain + Renew Europe Group *Slovenia	1.00	1.00	0.120	0.120
Socialists and democrats	0.986	0.986	0.336	0.291
Greens	1.00	1.00	0.157	0.148
European United Left/Nordig Green Left	1.00	1.00	0.094	0.073
Hungary	1.00	1.00	0.045	0.035
Malta	1.00	1.00	0.012	0.002
Ireland	1.00	1.00	0.026	0.012
Portugal	1.00	1.00	0.042	0.012
Luxembourg	1.00	1.00	0.012	0.009
Cyprus	1.00	1.00	0.014	0.005
Overall solution	0.994	0.994	0.882	

consistency value that is high enough (> 0.75) for the condition to be considered as necessary. However, the analysis of sufficient conditions shows that several social identifications seemed to be salient and with a consistency value of 1 led to the outcome of voting “yes” on the proposal. These are shown in Table 3.

With a consistency value of 0.993, three parliamentary groups and six national affiliations lead to the outcome of voting “yes” on the proposal (see the Venn diagram in Fig. 2). MEPs that were members of the Socialists and Democrats, Greens, or the European United Left/Nordic

Green Left parliamentary groups, or that were from Hungary, Malta, Ireland, Portugal, Luxembourg, or Cyprus, almost unitedly voted in favor of the resolution. In the case of Spain, interestingly, the Social Democrats unitedly voted against the proposal, although all other Spanish MEPs independent of their parliamentary group affiliation voted in favor of it. This contradiction accounts for the reduction in the consistency value for S. D. to 0.986. The combined coverage of these conditions (parliamentary groups and countries) adds up to 0.662, which means that 66.2% of cases’ (individual MEPs)



**Fig. 2** Venn diagram of sufficient conditions for the outcome “yes.” Source: R (Dusa 2021)



voting behavior is explained by only these 9 conditions. The model can be formalized as follows:

M1 : Socialists and Democrats + Greens + European United Left/Nordic Green Left + Hungary + Malta + Ireland + Portugal + Luxembourg + Cyprus → Yes

In addition to these single sufficient conditions, the explanatory coverage of cases is further extended by looking at configurations of conditions (see Table 3). It is visible that an additional 20% of cases can be explained, when assuming that there has been a salience of a combined identity as a country representative and member of a certain parliamentary group. In line with the results of the analysis of necessary conditions, belonging to the parliamentary group Renew Europe generally seems to also be sufficient for the outcome to occur, but there are some national identities that obviously suppress this parliamentary group identity. The results of this overall solution shown in Table 3 are robust with a consistency sufficiency of 0.994 and a coverage sufficiency of 0.810 (1 would be perfect according to Oana and Schneider (2021)).

On the other hand, there are also some combinations of social identification with parliamentary party groups and national affiliation that lead to a vote either in favor or against the resolution. For example, while the European People's Party members of Belgium, Slovakia, and Spain consistently (consistency level 1) voted "yes," the European People's Party members of Denmark and Sweden consistently voted "no." This provides hints towards a potentially underlying Scandinavian view on climate action, which might also imply that the resolution did not go far enough for them. This is further supported by the argument that environmentalism is rooted in the Scandinavian culture (Lynes and Dredge 2006).

Complementary to these results is it worth looking at the conditions leading to the negative outcome (i.e., not voting yes on the climate emergency) and to the vote against it. Again, this supports the results yielded from the analysis of sufficient conditions and the truth table algorithm. The identification with the parliamentary group IDG is sufficiently leading to both not voting yes on the proposal (consistency value of 0.985, coverage value of 0.271) and to voting no on the proposal (consistency value of 0.985, coverage value of 0.291). Regarding the country memberships, both the coverage and the consistency values are too low to make sensible statements and their relationship with the outcomes (~yes, no).

To sum up, the analysis shows that certain partisan identities and certain national identities were salient in the vote on the climate resolution and are therefore guiding the behavior of individuals in engaging in climate action at the political level. Confirming the

expectations, especially the parliamentary party groups that according to their party label support climate action (Greens and Nordic Green Left) are a salient identity for their members and consistently explain voting in favor of the resolution. Additionally, some national identities were activated by the resolution and led the individuals with these identities to comply with the norms of these national groups. Interestingly, the member states whose parliamentarians voted in a unified manner are at different stages of fulfilling the climate targets (Kryk and Guzowska 2021, p. 10) and would therefore be expected to have different norms.

## Discussion

The empirical analysis has shown that at a political level, the social identities that determine climate action are particularly partisan and local (in the case of the EP national) identities. Belonging to one of these groups often presents a sufficient condition for voting in favor or against a policy proposal. A focus on the group identities driving voting behavior explains around 80% of the individual votes. It can be assumed that the yet unexplained cases are either captured by other than the observed social identities or that other cognitive drivers, such as beliefs and values, are at work here.

Both the literature review and the empirical analysis on how social identities may be relevant to climate action provide important starting points for the further study of social identification and how it relates to climate action. The decision to engage in the combat against climate change and to not just agree with actions taken against climate change, but to also change one's own behavior substantially, are expected to be essentially related to the social groups people identify with. Especially since psychological research outlines the role that social identities play for environmental values and climate action (Bouman et al. 2021), it is likely that these are also influential at a political level.

Zooming in on these groups, political parties emerge as a prime target and driver of climate action. Some political parties managed to connect themselves as strongly to a climate orientation that its members take over these values and behave accordingly. Furthermore, political parties are both subject to lobbying strategies by NGOs, unions, and other societal actors (Royles and McEwen 2015, p. 1047) and active in climate networks, for example, in active local communities that pursue ambitious climate measures, often in spite of lacking financial resources from the federal level (Parker and Rowlands 2007; Ryan 2015).

With a view on the national group affiliations and their relevance to voting behavior, it is striking that some national identities led individuals to vote in favor of the resolution and thus determine climate action, but

that there is no obvious connection between these countries. The countries and their representatives are neither shaped by a particular climate-oriented culture, but they are also heterogeneous regarding the predispositions that might be considered as influencing norms regarding climate change, such as industrial activity, main businesses, and size. However, some of them are rather small, and some have large coastal areas or—in the case of Malta and Cyprus—are even surrounded by the sea, which might transfer the necessity to act in combatting climate change to their inhabitants and political representatives.

The committee membership, which can be captured as the sectoral identity of MEPs, is of very little relevance to their climate action in parliament. It did not yield sufficient consistency and coverage values to be considered a necessary or sufficient condition for climate action. This is probably due to the fact that committees have a rather preparatory function in the legislative process of EU decision-making than being central drivers of its content (Winzen 2011) and that even if committee members build policy-specific expertise and have a shared view on problems and solutions, this does not translate into behavior (McElroy 2006).

## Conclusion

What influence do social groups and identities have on climate action? How can we explain climate action with reference to social identities, and how can these insights help us in fostering climate action? This contribution has added to these questions in two ways. Firstly, it has reviewed the literature on the role of (social) psychology in explaining climate action. It has emphasized that climate action is not (just) driven by individual attitudes, beliefs, and values, nor by rational cost-benefit considerations, but that it is essentially determined by social groups and the individual attachment to these groups. This shapes the social identity of individuals and with it the social norms, internal convictions, and preferences that shape the individuals' behavior.

Secondly, the contribution has turned to the role of social identities for climate action at the political level. Studying voting behavior on a climate resolution in the European parliament, a QCA has revealed that parliamentary party groups and local identities determine a large part of individual roll call votes and that these explanations cover a little more than 80% of all pro-environmental votes. Although the analysis presents only a small part of the empirical evidence outlining the importance of social identities, it does provide a starting point for further studies on social identification and how it motivates climate action.

A central question and limitation of this article are to what extent the results are generalizable across decision-making processes in the European Parliament, particularly

because the study focused on votes on a non-legislative resolution. While this is not comparable to a legislative decision or EU directives, it presents one step towards identifying the underlying group-related rationales of MEPs when voting. The salience of groups may change in different legislative contexts, but the findings provide evidence for the relevance of identifications with social groups to individual voting, even when the consequences of this vote are loose and non-binding. Further research is strongly encouraged to shed light on the conditions under which some identities are salient over others.

Related to the relevance of these findings are their discrepancy with the image of the European Union as a democratic organization. While MEPs are elected and should represent the interests of their electorate, the results of this study show that they are still guided in their decisions by their party political and national affiliations and resulting identities. On the one hand, decision-makers and actors that drive institutional reforms of EU policymaking should pay attention that these democratic flaws are reflected on and resolved, to ensure democratic legitimization of the votes in the European Parliament. On the other hand, these insights emphasize the hurdles that climate action faces, when individuals are complying with group norms. This provides both a challenge to individuals when they want to engage in climate action but the social groups that they identify with overshadow their thinking and actions, and at the same provides an opportunity for group leaders to notice that a change in group norms can have a substantial impact on climate action because group members will follow them.

As a future research agenda, a focus on social identities and how they drive climate action not just at an individual level of social mobilization, but also in the political sphere of politics, public administration, and lobbying, to name but a few areas, promises to be a fruitful undertaking. Of particular interest will be the study of internal group dynamics within parties and national representatives, of changing and conflicting social identities, and of the transformation of social groups to pro-environmental collective actors. Which countries form a strong identity and why? Which political parties achieve high levels of cohesion through social identification? Such a broad scope prompts the creation of interdisciplinary teams from political science, public policy, sociology, psychology, environmental engineers, and related disciplines, to advance the study of climate action.

## Supplementary Information

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**Additional file 1.** Codings of Social Group Memberships (exemplary for all MEPs).

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### Availability of data and materials

Data transparency: The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request. Software application or custom code: The analysis has been conducted with the open-source software R. The code is available from the corresponding author on reasonable request.

### Declarations

#### Competing interests

The author declares that she has no competing interests.

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