

The London School of Economics and Political Science

Department of Methodology

The group-ishness of voting:

Preferences towards group membership, within-group authority,
and between-group hierarchy shape and predict the way we vote

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Declaration

I certify that the thesis I have presented for examination for the PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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Statement of co-authored work

I confirm that Chapter 3 was co-authored with Benjamin Lauderdale and Jennifer Sheehy-Skeffington, and I contributed 70% of this work; this paper has been submitted to *Political Psychology* where it has received a “revise and resubmit” decision, and the revised manuscript, as presented in Chapter 3, is currently under review. I confirm that Chapter 4 was co-authored with Katharina Lawall and Jennifer Sheehy Skeffington, and I contributed 80% of this work.

Denise Baron

As the candidate’s primary supervisor, I hereby confirm that the extent of the candidate’s contribution to the joint-authored papers was as indicated above.

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Abstract

Attempts to understand and predict voting have often pitted potential explanations against each other: policies versus partisanship, identities versus ideologies. This thesis, instead, suggests a pluralist framework of group-ishness, which highlights the role of group membership, coordination, and competition in our political cognition and behaviour. Instead of putting prominent theories in competition with each other, research on this topic integrates group identities (i.e. national identification and partisan affiliation), orientations towards authority within a group (i.e. authoritarianism), and preferences for the distribution of rights and resources between groups (i.e. egalitarianism). This thesis provides an argument for why group-based preferences are so strongly linked to voting decisions, experimentally tests this framework with a series of survey experiments and validates it with actual election results. The findings indicate that our group-based preferences influence our voting decisions and perceptions of candidates and can also be used to predict election results. The first paper employs a discrete choice experiment and identifies shared group-based preferences as highly influential on voting decisions. Beginning with a broad consideration of social feelings, perceptions, and commitments, the first study in this paper confirms the importance of group-based preferences based on the commitment to a shared group and to principles for distributing power and resources within the shared group as well as between groups. The second paper confirms that shared group-based commitments are underlying voters' perceptions of similarity with candidates as well as vote intention, more so than shared socio-demographic characteristics. This paper also considers perceived similarity alongside the traditional candidate traits of competence and warmth, and the results indicate perceived similarity is more closely linked to vote intention than candidate warmth or competence. The third paper considers this framework within actual election contexts and explores the relative predictive ability of such a framework for vote choice and election results as compared with traditional predictors of political ideology and demographics. Overall, these findings contribute to the growing literature on the group-based foundations of our political preferences and behaviours, contributing evidence of both causal links and application to actual election contexts.

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1. Introduction

“In this election, no one has a good word to say about tribalism,” proclaimed Alan Finlayson in the Guardian during the 2019 British General Election. In the New Statesman, Jeremy Cliffe (2019) complained that Britain’s leaders are “motivated not by practical matters, but by tribal hatreds”, while The Economist (2019) bemoaned this state of affairs, saying politics were currently “about tribalism as much as economics”. Clare Foges (2019) went as far as to call for “the death of the political tribe”, writing for the Times. In the period this thesis was written, it was evidently difficult to find any fans of tribalism.

Perhaps the only thing equally maligned among Britain’s political commentariat during the 2010s was the misuse of personal data and “psychometrics” in political campaigning, particularly accentuated by the spectre of Cambridge Analytica. After Carole Cadwalladr’s 2018 article in the Guardian, featuring whistle-blower Christopher Wylie’s account of Cambridge Analytica’s work for the Brexit campaign in 2016 and Donald Trump’s campaign for US President in 2016, the floodgates opened.

Wylie characterised Cambridge Analytica’s work for these campaigns as “Steve Bannon’s psychological warfare tool” (Cadwalladr, 2018). The Atlantic also reported on “Cambridge Analytica and the dangers of Facebook data” (Madrigal, 2018), and the Nation warned that “Cambridge Analytica Showed Us the Dangers of ‘Academic Commercialism’” (Cordes, 2020). Amnesty International went further to say, “Cambridge Analytica is just the tip of the iceberg” and asked “to what extent are we susceptible to such behavioural manipulation?” (Westby, 2019). Recently, the academic journal *Frontiers in Psychology* published an article, entitled “Is the Use of Personality Based Psychometrics by Cambridge Analytica Psychological Science's "Nuclear Bomb" Moment?”, in which the author argues that “the unleashing of psychometrics which can be used by the Military Industrial Complex and big data companies has contributed to a world that is more dangerous and forever changed” (Prichard, 2021). This fear of voters and elections being manipulated by the combined forces of social psychological research and social media data is apparent in this period.

During this same moment in British and American politics, rather than decrying the perils of tribalism and abuses of psychological data, many have turned to political psychology to

contextualise and better understand contemporary politics. To this end, political psychologists have appeared in the media to suggest how this literature can, in fact, help explain the political events of the 2010s. For example, political psychologist Leor Zmigrod (2018) wrote “This is how cognitive psychology can make sense of the Brexit vote” in the Independent, and another psychologist, Michele Gelfand, wrote “Here’s the science behind the Brexit vote and Trump’s rise” in the Guardian (Gelfand, 2018). Zmigrod highlighted the link our cognitive styles have with voting, and Gelfand emphasised the role of social norms in shaping political behaviour. Both articles, in addition to others, encourage the broader political class of practitioners and commentators to consider how our minds absorb political information and conceive of society when contextualising contemporary politics. Ultimately, these are efforts to comprehend why we vote the way we do, and it is in this same effort to better understand the underlying social and psychological forces shaping elections and voting decisions that this thesis has been written.

The renewed focus on the psychological influences on political and societal events of the 2010s reminds us that during turbulent times in the previous century, political psychologists were driven to identify the psychological forces shaping our world and produced scholarship which still shapes contemporary political psychology research. In the wake of World War II, Adorno and colleagues attempted to understand Nazism and the behaviour of those who had perpetuated the atrocities of the Holocaust, publishing “The Authoritarian Personality” in 1950. Around the same time, Sherif and colleagues were conducting the 1954 Robber's Cave experiment and developing ground-breaking theories on intergroup conflict and prejudice (e.g., Sherif et al., 1961). Not long after, Campbell and colleagues published their seminal work “The American Voter”, which grew out of efforts to improve the study and polling of national elections following the poor predictions in the 1948 US Presidential Election. These theoretical advances in political psychology, among others, occurred during one of the most turbulent times in Western democracies, and this thesis argues that such a group-based approach remains an informative and useful way to understand the contemporary dynamics of elections and voting.

Rather than the derogatory suggestion of the term “tribalism”, my thesis is framed in terms of social groups and our group-based inclinations. Henri Tajfel, a leading scholar in this literature, referred to the preferences for our ingroup and predisposition to discriminate against outgroup members as “groupness” (Tajfel, 1970). More recently, evolutionary psychologist Tooby and Cosmides (2010) have developed the idea of coalitional psychology, which refers to the features of the human mind that deal with group-related concerns, especially cooperation and conflict. In

this thesis, I build on that idea of “groupness” and the logic of coalitional psychology by introducing the term “group-ishness”, which refers to the condition of being oriented towards social groups and toward particular features and principles of organisation of those social groups.

The most prominent facets of group-ishness, as analysed in this thesis, refer to the group-based social commitments we hold towards specific ingroups as well as our preferences for the function of authority within the group and of hierarchy between different social groups. As will be argued in the following chapter, our group-ishness is particularly activated in political contexts and therefore, the related constructs (i.e., national identification, partisan affiliation, authoritarianism, and egalitarianism) have strong links to our political cognition, especially voting decisions. The terms “group orientations” or “group-based preferences” are also employed to refer to a broader set of constructs which characterise group-ishness, but “social commitments” or “group-based commitments” refer specifically to that set of constructs which are defined by an allegiance to a group and to principles for within- and between-group coordination.

Overall, this thesis contributes to the decades of literature addressing the fundamental question of “why do we vote the way we do?” and offers evidence supporting a pluralist, group-based framework. The papers in my thesis contribute to the increasing efforts of political psychologists to bridge the social psychology and political science literatures, particularly those focused on the underpinnings of voting decisions. The studies presented in this thesis support the proposed framework by experimentally and quantitatively investigating the links between group-based preferences and voting.

In my first paper, my co-authors and I propose the questions: do group-based, social psychological attitudes conditionally influence vote choice? And if so, which ones are the most influential? We find that voters prefer candidates who are closer to their own group-based preferences and less likely to select candidates further from their preferences, particularly in terms of national identification, authoritarianism, and egalitarianism. In my second paper, my co-authors and I investigate which shared attributes between candidates and voters produce perceived similarity and shape vote intention. We find that voters identify with and want to support candidates who share their group-based social commitments more so than those who share their demographics and simply look like them. In my third paper, I apply this framework to actual election contexts and ask: do group-based preferences predict vote choice? Do

aggregated group preferences predict actual election results? I find that group-based preferences perform as well or better than the traditional predictors of political ideology and demographics.

The contributions of this thesis are theoretical, methodological, empirical as well as practical. First, the overarching argument of this thesis brings together a series of political behaviour and social psychology theories to suggest that we prefer leaders who will enact our preferred group-based social commitments, and we reject leaders who hold conflicting group-based commitments. The relative importance and influence of these group-based preferences varies with electoral and national context.

Second, this thesis includes a number of methodological advancements. The manner in which we consider both the signal from the candidate and the reception of the voter is key to the methodological contribution of this thesis. The experiments in Papers 1 and 2 employ a novel design, where we match previously collected survey responses to our experiment responses, and we then interact the construct measurements of the participant's group-based preferences with the corresponding candidate signal (i.e., experimental treatment). This design allows us to demonstrate that those group preferences are not only able to predict differential responses to relevant candidate signals or attributes, but they are endearing and stable enough to do so with months or years passing in between when they are measured in the respondent and 'read' from the candidate.

Next, the empirics of this thesis experimentally demonstrate that group-based preferences have a causal relationship with voting decisions. I provide evidence that signals of ingroup identification, preferences for within-group organisation and sources of authority, as well as between-group hierarchy shape voting decisions. Not only do I observe this in experimental settings, but I also find these group-based preferences predict actual election results by producing the first known constituency-level estimates of group-based preferences and demonstrating their strong associations with election results.

Lastly, the findings of these studies have practical value and can be applied by political professionals. The overall argument recommends a messaging framework which taps into different aspects of our group-ishness. Papers 1 and 2 indicate the relative attraction and repulsion that specific messages would have based on the voters' group preferences, and the constituency estimates produced in Paper 3 could inform parties' decisions on where to target

resources during elections and which messages to emphasize (or de-emphasize) in particular constituencies.

The following chapter will present my argument, examine the literature, which illustrates the function of group-ishness in political cognition and behaviour, and bring together political psychology theories on the underlying causes of voting. Each of the three aforementioned papers will follow, and then I will conclude with a discussion of the implications of these findings.

2. Conceptual overview: the group-ishness of voting

This thesis argues that the navigation of political decisions, especially voting, evokes our group-ishness, or the condition of being oriented towards social groups and toward particular features and principles for organising those groups. Before exploring the details of the social psychology and political science supporting this thesis, I will summarise the overarching narrative driving the core elements of this argument.

The importance of groups in human society can be traced back to early human species, with homo sapiens having the ability to build especially large social groups (Hyland, 1993). We see evidence of this group-ishness in contemporary people, particularly demonstrated by studies of the minimal group paradigm. This paradigm contends all that is necessary for people to act favourably towards their ingroup and discriminatorily towards an outgroup is to simply have awareness of belonging to a group (Tajfel, 1970). Further work on this topic revealed the many influential functions of the identities which result from group membership. Social Identity Theory (SIT) and Self Categorisation Theory (SCT) highlight that the extent to which we identify with a group will have varying effects on our attitudes and behaviour and that particular circumstances evoke group biases, most notably for this thesis, political situations (Tajfel & Turner, 1979).

If ingroup favouritism is a fundamental group bias, then what other cognition or behaviours are governed by our group-ish motives? Returning to an evolutionary approach, more recent theories suggests that the human mind evolved specifically to deal with group-related concerns given the importance that large social groups played in early human survival (Tooby & Cosmides, 2010). Our coalitional psychology, therefore, evolved to address the challenges of group-living, in terms of both within group coordination and between group competition. A shared understanding of authority, whether it is a specific leader or a set of norms, within a group ensures that group members will follow the leadership and regulate their behaviour to accord with the agreed source of authority (Tooby & Cosmides, 2010). Adaptive followership theory extends this evolutionary logic, arguing that the most efficient way to ensure coordination and survival, especially in times of conflict, is via a strong and dominant leader (Lausten, 2021).

However, alternative theories of leadership suggest that the characteristics of the group being led as well as the context determine which kind of leader is preferred, such as a dominant and competitive leader versus a collaborative leader (Haslam, et al., 2020; Gleibs & Haslam, 2016).

In the wake of World War II, scholars attempting to understand the events, the leaders, and the reactions of ordinary citizens developed seminal theories on authoritarianism, both the strong, dominant leadership of that era and the compliant followership (e.g., Adorno, et al., 1950).

Research on the authoritarian personality has since identified the inclination to submit to strong leaders (Altemeyer, 1981) and has been extended this to also include preferences for conservatism and traditionalism (e.g., Altemeyer, 1981; Duckitt & Sibley, 2007). The use of Right-Wing Authoritarianism scale has become a common way to measure these preferences for within group organisation, and as we will explore, extensive research confirms its strong link with political attitudes and behaviour (e.g., Altemeyer, 1981; Duckitt & Sibley, 2007).

Social Identity Theory (SIT) also posits that we are motivated to compare social groups and find ways to ensure our group fares and/or is valued more strongly than other groups (Tajfel & Turner, 1979). This concern with positioning of one's group in relation to other groups was thoroughly developed in Social Dominance Theory, which contends that social hierarchies are driven and inequalities between social groups are perpetuated by the hierarchy and dominance-seeking aspect of our group-ishness (see Sidanius, et al, 1994 and Sidanius & Pratto, 2001). Individual differences in the preference for groups to be arranged hierarchically are indexed by Social Dominance Orientation (SDO; Sidanius, et al., 1994). The preference to reduce or eliminate hierarchy is often referred to as egalitarianism and crucially is on the other side of the social dominance spectrum. Indeed, early work on the functions of groups identified the push and pull of "groupness" and "fairness" that we balance in making social decisions (Tajfel, 1970).

As we will explore in the following sections, these group-based frameworks are also strongly and consistently linked to contemporary political preferences. Ingroup identification based on national identities (e.g., Ford & Sobolewska, 2018; Montagu, 2018; Hobolt, Leeper, & Tilley, 2020) and partisan identities (e.g., Mason, 2018; West & Iyengar, 2020) have been demonstrated to be highly linked to vote choice and political preferences. Authoritarianism and egalitarianism are also consistently and strongly associated with political attitudes and voting decisions (e.g., Cornelis & Van Hiel, 2015; Womick et al., 2018; for a meta-analysis, see Van Assche, et al., 2019). From its evolutionary roots to its contemporary manifestations, our group-ishness is

deeply embedded in our social instincts, and this thesis investigates the link between these group-based preferences and our decisions about who should govern our societies.

Evolutionary roots of group importance and evidence of group-ishness in contemporary human nature

Why do we vote the way we do? One approach to addressing this broad, yet fundamental question of political psychology and behaviour goes back to the origins of humans and society. Palaeoanthropologists identify the human ability to produce complexity in cognition, culture, and cooperation as definitive of what makes humans unique from other primates (Hill, et al., 2009). The third of those, cooperation, is our primary focus here. The ability to cooperate within social groups and build complex societies was a major contributing factor to the survival of early humans (for a review, see Boyd & Richerson, 2009). Evolutionary psychologists propose that early humans developed social instincts that underly our inclination to exist and live in social groups (Boyd & Richerson, 2020). As defined by Boyd and Richerson (2020), such social instincts refer to a psychology that assumes life to be social and to be governed by the moral norms of the group. Moreover, this psychology is structured to learn and internalise the group's norms, which enables cooperation at a large-scale (Boyd & Richerson, 2020). Social instincts are therefore theorised to be a crucial mechanism enabling the formation of and cooperation within large-scale groups (see Boyd & Richerson, 2020).

While all early human species currently known formed and lived in social groups, our ancestors, homo sapiens had an advantage over other hominin species in that regard. Compared to other early species of humans, homo sapiens lived in larger social groups than their hominin counterparts, such as Neanderthals and Denisovans (Castellano, et al., 2014). Homo sapiens' ability to form large groups, enabled by cooperation with non-kin and complex communication among other characteristics, is likely involved with our survival as a species, surpassing the size, scale, and abilities of other hominin species (Boyd & Richerson, 2009; Hill, et al., 2009; Castellano, et al., 2014).

If large group formation was fundamental to the differentiation of homo sapiens and the survival of early humans, then evolutionarily, we would expect contemporary humans to retain the social instincts that characterise this group-ishness today. Indeed, this is exactly what social psychologists find (for reviews, see Diehl, 1990 and Pechar & Kranton, 2017). Social psychologists contend all that is necessary for group-related biases, such as ingroup favouritism

(i.e., ingroup love; Brewer, 1999), outgroup prejudice (i.e., outgroup hate; Brewer, 1999), and intergroup competition, to be present is simply being aware of being categorised into a group, a phenomenon uncovered through studies in the minimal group paradigm (Tajfel, 1970). Put another way, awareness of membership in a group is all that is needed to inspire favourable treatment towards and cooperation with other members of your group as well as discrimination against and competition with other groups (Tajfel, 1970).

The Robber's Cave experiments, conducted at a boys' summer camp in the 1950s, were among the first studies of the power of even newly assigned group membership (Sherif, et al., 1961). At this summer camp, culturally homogenous boys were divided into two groups or teams, separated from individuals with whom they had previously established ties, and instructed to participate in several days of camp activities designed to encourage team building and competition between the teams (Sherif, et al., 1961). At the end of several days, both teams of boys exhibited a familiar pattern: extreme favouritism towards their own team and prejudice against the other team (Sherif, et al., 1961).

This paradigm was also studied extensively by Tajfel and colleagues as an effort to explain discriminatory behaviour. Interestingly, Tajfel (1970) notes that previous efforts to understand discrimination, such as the development of theories on authoritarianism, focused on attitudes rather than the actual behaviour and on "prejudice rather than discrimination" (p. 96). His experiments, therefore, focused on the social setting in which ingroup/outgroup dynamics arise and actual behaviour is observable (Tajfel, 1970). Whether the participants were told that they were divided into groups based on performance in a visual task or preferences for the painters Klee or Kandinsky (when they were, in fact randomly assigned), participants consistently choose to benefit their own group and disadvantage the other group (Tajfel, 1970). In fact, most participants favoured allocation outcomes that maximised the difference between own group's and another group's outcomes, as opposed to that maximised their own personal outcomes, illustrating that it is not only important for an individual to maximize their personal benefit, but that their group is superior to the outgroup (Tajfel, 1970). Tajfel (1972) would, later, go on to describe intergroup discrimination as a way to achieve a positive social identity for one's ingroup by maximising the differences between ingroup and outgroup. We will return to the importance of superiority, hierarchy, and dominance later on.

Decades of research in social psychology has replicated and extended this theory (for reviews, see Diehl, 1990 and Pechar & Kranton, 2017). Importantly, researchers have investigated the different contexts in which our group-ishness is heightened or reduced. In a recent meta-analysis of minimal group paradigm experiments, researchers identified what factors consistently impact the level of intergroup discrimination (Pechar and Kranton, 2017). Priming social norms related to group adherence (such as loyalty) and intergroup comparison (such as rewarding competitiveness) increase the levels of between-group discrimination, while priming contrary norms (such as equality) decrease intergroup discrimination (for a review, see Pechar and Kranton, 2017). These studies suggest that the situations which tap into group-ish predispositions can be influenced by framing or communicating certain group-relevant values like loyalty and equality.

One of the most consistent findings across decades of research on this topic is that strength of identification with the ingroup increases the probability and extent of discrimination against an outgroup as well as ingroup favouritism (for a meta-analysis, see Pechar and Kranton, 2017). Interestingly, one study approached this question from the other perspective and demonstrated that increasing the perceived similarity of the outgroup considerably decreased levels of intergroup discrimination (Diehl, 1988). As we will explore in further detail in a later section, these findings indicate the level of identification with the ingroup conditions how we behave in group-relevant situations.

This wealth of research confirms the influential role that group-ishness and group membership continue to play in contemporary cognition and social decision-making as suggested by the evolutionary roots of group-ishness. Moreover, it verifies that we apply group biases to situations in which one is simply placed into a group, as arbitrary as that categorisation may be. Within those situations, a number of things influence our behaviour, such as communication of group-related values (e.g., ingroup loyal or equality) or the identification with an ingroup.

Building upon previous work which established the critical role group membership plays in shaping intergroup behaviour and biases, Tajfel and Turner developed a broader set of theories on the importance and function of identities that arise from membership in social groups: Social Identity Theory (SIT) and Self-Categorisation Theory (SCT; Tajfel and Turner, 1979; Tajfel and Turner, 1985). Together these theories posit that the process of social categorization divides our worlds into social groups of “us” and “them”, resulting in group identities, which are key sources

of belonging and self-esteem (Tajfel and Turner, 1979; Tajfel and Turner, 1985). Crucially, the extent to which one identifies with their ingroup shapes the way we think and behave in contexts that activate that social identity (Tajfel & Turner, 1979; Turner & Oakes, 1989; for a review, see Yzerbyt & Demoulin, 2010).

Social identities can be based on small, highly familiar group membership (e.g., a family) or a very large, relatively anonymous group membership (e.g., a nation; Tajfel & Turner, 1979). Some scholars theorize that the human brain evolved to not only enable alliances and identities based on proximal relationships, but also the alliances and identities related to relatively distal or distant relationships (i.e., with ingroup members we do not personally know; Moffett, 2013). It is important to note that this evolutionary connection is absent from SIT, and yet, it provides a crucial link explaining the social cognition underpinning the transition of early humans from small groups of dozens of individuals to larger agricultural societies of thousands of individuals and later, to the size of contemporary nations in the millions of individuals (Moffett, 2013).

The multifaceted and political functioning of social groups

Having considered the evolutionary foundations and contemporary evidence of group-ishness in our decision-making and conceptions of identities, I will now turn our attention to the societal and political relevance of our group-based preferences. As this area of intra- and intergroup theory has matured, more specific predictions related to group membership have arisen, identifying which aspects of group membership are consistently influential on cognition and behaviour, yet highly variable between individuals, and important to this thesis, researchers investigated this within the political domain. The following theoretical developments shed light on how the importance of groups in the human mind is related to distinct preferences or orientations towards group membership, within-group organisation, and between-group hierarchy.

Political situations, such as the communications and decisions involved in an election, activate particular group identities, which tap into both the overarching shared societal identity (i.e., the nation) and the groups that govern within the broader group (i.e., political parties; for a review, see Yzerbyt & Demoulin, 2010; Mason, 2018). The importance of national identity is evident in British politics, and in fact, the presence of multiple layered national identities (or nested identities) such as English, British, and European make it an ideal setting for studying group-based preferences and voting. Over the years, national and supranational identities have been

mobilised politically, for instance English identity (see Ford & Sobolewska, 2018) and European identity (Montagu, 2018; Hobolt, Leeper, & Tilley, 2020). However, in contexts where the national identity is less contentious, national identification is less relevant to voting (e.g., New Zealand; Duckitt & Sibley, 2016).

Political scientists Lipset and Rokkan's approach (1967) also prominently features the role of ingroups and outgroups in shaping vote choice. Lipset and Rokkan's (1967) model identifies cleavages or divisions between social groups in society as the key organising factor of political behaviour, with key cleavages existing between the centre and the periphery of society, between Church and State, between the urban and rural, and between the employers and employees (Lipset & Rokkan, 1967; for a review, Johnston, 1990). As distance between these social groups grew, the likelihood for social conflict as well as change increased, and eventually this would produce political mobilisation, which would be funnelled through the party system (Lipset & Rokkan, 1967). In this model, the political parties act as conduits of social conflict from cleavages, especially the class division between employers and employees; parties, therefore, have a pivotal role in political mobilisation, and perceptions of parties exert the greatest influence on voting decisions. The group-based nature of this model reminds us of the importance of group identification as an underlying force of voting and reinforces the idea that which group identifications are politically mobilising or relevant will vary with context.

Other scholars consider partisanship as a fundamental group identity activated by political contexts rather than primarily a mobilising structure for social unrest. In this same era of scholarship, Campbell with his collaborators established partisanship as a "psychological identification" with a political party and not simply a set of rational, calculated preferences (Campbell, et al., 1960). Their seminal work "The American Voter" was built upon their study of the 1952 American Presidential election and argued that partisan identification was the most influential factor on vote choice (Campbell, et al., 1960). This theory of vote choice became known as the "funnel model" or "Michigan model", which highlights the psychological role of partisanship in shaping vote choice (for a review, see Knoke, 1974 and Converse & Kinder, 2004). These scholars argued that we learn party identification early in our lives from parents and immediate surroundings; we then form a psychological attachment to this party (i.e., partisanship), and we adopt the positions of the party as our own attitudes (Campbell, et al., 1960; for a review, see Converse & Kinder, 2004). According to Campbell and colleagues, those attitudes (as shaped by the party) then shape our perceptions of the candidates and parties,

various groups and interests involved in the political domain, and policy preferences, finally resulting in a vote choice. In this theory, partisanship is the lens which adjusts all political information to produce preferences and voting behaviour, importantly assuming but not proving a causal direction from party to preferences.

A contemporary and growing literature has built on Campbell's seminal idea and considers partisanship a social identity (e.g., Mason, 2018; West & Iyengar, 2020), which behaves as SIT would predict, shaping voters' perceptions, attitudes and behaviour (Green, Palmquist and Schickler, 2002; Mason, 2018; Huddy, Bankert and Davies, 2018). Like other social identities, partisanship produces consistent and strong ingroup favouritism and voting homophily, and it varies in different historical and cultural contexts (West & Iyengar, 2020; Butler & Stokes, 1974; Inglehart & Klingemann, 1976; Huddy, Bankert & Davies, 2018).

In addition to national and partisan identities, new politically relevant identities can arise, as observed recently in British politics. Brexit-related identities of "Leavers" and "Remainers" became more strongly associated with political preferences than partisanship during the period when Brexit was hotly contested (Hobolt, et al., 2020). Overall, the social identities activated by political situations (i.e., those related to nation, party, and emergent ones) as well as the level of identification with the ingroup influence our attitudes and decisions in political situations.

The importance of group coordination

Given the importance of group membership to individuals, we next turn our attention to the collective role of group membership. Having established the influence of belonging to a group and the identities that arise, the next question is, what is the collective benefit of forming groups? And do we see evidence that the collective benefits of group are still relevant to political decision-making?

Again, an evolutionary approach offers an explanation. Following the importance of large social groups and the role they played in the survival of early human, evolutionary psychologists Tooby and Cosmides (2010) argue that natural selection produced a human mind specifically equipped to deal with group-related concerns. The need to coordinate within the group, particularly in the face of conflict with other groups, facilitated the evolutionary development of a coalitional psychology. According to this approach, intergroup aggression and conflict (i.e., war) as well as forceful struggles for power within the group (i.e., politics) made death a more likely

consequence for those who operated outside of the coalitional organisation (Tooby & Cosmides, 2010). Efficient group coordination in these settings increased the chances of survival, and this theory suggests those selection pressures resulted in this coalitional psychology (Tooby & Cosmides, 2010).

So what about our coalitional psychology ensures efficient group coordination? One potential explanation is a shared understanding of authority within the group. This authority may stem from a leader, an entity, or a norm, but crucially, the collective acceptance of the authority source produces a clear organisation for a group, which in turn, facilitates within group coordination (Van Vugt, 2006; Van Vugt & Grabo, 2015). Indeed, as the strength of this leader or the rigidity of the norm increases, the group organisation become more defined, and coordination becomes easier as posited by Tooby and Cosmides (2010). This argument has clear implications for both leadership and followership as well as moral authority and morality. As posited by Boyd and Richerson (2020), the development of social instincts provided early humans with a psychology that “expects” life to be governed by the moral norms of a group and that easily learns these moral norms. Both the development of leadership-followership relations and the use of social norms as moral power are highlighted as a key coordination elements of coalitional psychology, supporting a central claim that “the set of evolved programs that enable and drive warfare and politics strongly overlap with the set of evolved programs that drive human morality” (p. 230 in Tooby & Cosmides, 2010).

The authority structure of coalitional psychology is still present in the contemporary human mind and apparent in research of the last century. In the wake of World War II, Adorno and colleagues (1950) attempted to explain how the rise of fascism in Europe was possible, and their initial attempts to characterise this authoritarian personality, though not well empirically supported, included extreme obedience and submission to authority. Altemeyer furthered this work and extended the authoritarian orientation to include the submission to authority figures (as identified by Adorno et al., 1950) as well as a general aggression toward those not obeying said authorities and conformity or conventionalism regarding social norms (Altemeyer, 1981; Altemeyer & Altemeyer, 1996). The development of the Right-Wing Authoritarianism (RWA) scale has enabled the measurement of this orientation towards authoritarian followership in individuals, which captures considerable and stable variation among individuals (Altemeyer, 1981).

These concepts of authoritarian followership and recognition of authority pertain to the allocation of power (to the authority source) and the negotiation of this power within our groups. Unsurprisingly, we observe consistent links between RWA and political attitudes. For instance, RWA is strongly and consistently associated with policy preferences that outline a strict and orderly society, such as support for stringent prison sentences and the punishment or deportation of immigrants who have not adhered to the legal system (Duckitt et al., 2010). RWA has also been found to predict support for far right-wing and right-wing parties and candidates (for a meta-analysis, see Van Assche, et al., 2019).

The left-wing counterpart to RWA has been more elusive, and some scholars deny the existence of a left-wing authoritarianism (e.g., Jost, 2021). However, others have identified group-based authority preferences that are commonly associated with left-wing ideology and left-wing extremism, including antihierarchical aggression (e.g., support for political violence to overthrow or challenge governments in power), anti-conventionalism (e.g., moral condemnation of traditionalism and conservatism), and top-down censorship (e.g. of hateful and offensive speech; Castello, et al., 2022).

Interestingly, those who hold left-wing authoritarian (LWA) preferences have a considerable amount in common with those who hold right-wing authoritarian preferences (Castello, et al., 2022), suggesting an underlying orientation which varies in expression based on the political group membership and context. In fact, there seems to be an authoritarian “constellation” of predilections that include prejudice towards social difference, preferences for social uniformity, a readiness to use group authority to coerce or compel the behaviour of dissenting individuals, willingness to punish perceived enemies, and an exaggerated focus on moral absolutism and hierarchy (Castello, et al., 2022). While this thesis does not empirically investigate LWA, the overlaps between LWA and RWA suggest the underlying authority-related preferences should be considered *in addition to* and not in place of left-right political orientation.

These different iterations of authoritarian followership suggest there are different methods for achieving group coordination, and so this begs the question, do different circumstances require different leaders to coordinate or govern the group? The emerging theory of adaptive followership suggests that yes, varying circumstances require followers to adapt to different types of leaders (Van Vugt & Grabo, 2015; Laustsen, 2021). This approach extends the evolutionary argument of coalitional psychology by arguing that in the face of costly intergroup conflict, we

will prefer strong and dominant leaders as the most efficient way to achieve group coordination and survival (Petersen & Laustsen, 2020; Laustsen, 2021). This desire for not only strong, but dominant leadership, importantly, is accentuated in the context of intergroup conflict, highlighting where preferences for *within* group organisation and authority overlap with our preferences for the ideal structure *between* groups.

Another understanding of leadership with its foundations in Social Identity Theory (SIT) also suggests that circumstances and context shape the kind of leader desired by the group, indicating that the authority granted to leaders stems from group identity (Haslam & Platow, 2001; Gleibs & Haslam, 2016; Haslam, et al., 2020). This social identity-based understanding of leadership differs from adaptive followership by characterising leadership as a group process, which is shaped by those being led as well as the leaders (Haslam, et al., 2020). This conception of leadership proposes that followers endorse a leader because the leader embodies key characteristics of the group identity and prioritizes strategies that will maintain or advance group identity in varying situations of intergroup relations (Gleibs & Haslam, 2016; Haslam, et al., 2020). For example, research has demonstrated in experimental settings that the group's status and the stability or instability of relations between groups determine preferences for a competitive leader versus preferences for a cooperative leader (Gleibs & Haslam, 2016). This approach provides an important conceptual link between the importance of group identity and the level of identification, authority preferences (e.g. competitive versus cooperative), and endorsement of leaders.

Following the evolutionary logic of coalitional psychology, our minds are organised in a way to facilitate group coordination, and one way to ensure coordination is to organise the group around a strong source of authority. Research on authoritarian followership indicates that submission to a strong leader, an aggressive support of authority, and social conventionalism are strong and enduring preferences for internal group organisation, which also vary individually. Another conception of leadership rooted in SIT suggests that the authority we grant leaders stems from their ability to embody and advance the group's identity. In addition to group identification, these preferences for within group authority are the second social commitment and central aspect of group-ishness underscored in this thesis.

Comparison and hierarchy between groups

As we move our attention from *within* group preferences to *between* group preferences, the first thing we should consider is the predisposition to compare social groups. One implication explored in SIT is that we draw comparison between the ingroup and outgroup. Building upon the human tendency to group things together, Tajfel and Turner (1979, 1985) identified this tendency in a social context as stereotyping or the cognitive process of putting people into groups and categories (for a review, see Tajfel, 2001). When stereotyping, we often exaggerate the differences between social groups as well as the similarities of the people in the same group. Since we want to feel pride in our ingroup, we exaggerate the differences between groups and place our ingroup hierarchically above the outgroup (for a review, see Tajfel, 2001). This inclination towards hierarchical ranking is evoked whenever social comparison occurs, and so we can easily imagine how political contexts and the explicit negotiation of power between groups (i.e., nations, parties, etc) would tap into hierarchy-related preferences.

Indeed, the stereotypes and prejudice, resulting from this intergroup comparison and hierarchical ranking, can be observed throughout human political history (for a review, see Knights, 2014). Scholars agree that evidence of ethnic and racial stereotypes and prejudice are prevalent in the texts and imagery of such ancient societies as Greece and Rome (see Isaac, 2013). Even the Middle Eastern culture outlined in the Bible includes numerous examples of intergroup stereotyping and prejudice. As an example, the biblical parable about the Good Samaritan actually relies on the audience being aware of the intergroup tension between the Jews and Samaritans of the first century (McFarland, 2001). The kind behaviour of the Samaritan towards the Jew in this parable counters the stereotype of cruel and brutal Samaritans, which contemporary Jews held (McFarland, 2001).

This longstanding inclination towards intergroup hierarchy and the resulting stereotypes and prejudices have led to some of the most violent and horrific conflicts in recent history. Examples are easily identified in our relatively recent history, including the enslavement of Africans and their descendants by Europeans and Americans, the Jewish Holocaust perpetrated by the Nazis in Germany, struggles between Catholics and Protestants during The Troubles in Northern Ireland, and the conflict between the Hutus and Tutsis and the resulting genocide committed in Rwanda.

Of course, the preference towards intergroup hierarchy does not always result in such extreme violence. In fact, it is observable in fairly benign settings as well as more consequential ones. As previously mentioned, Tajfel (1970) experimentally demonstrated that participants preferred to make their own group superior to the out-group rather than maximize the benefit to all participants in a simple lab setting. This superiority-seeking behaviour evokes the hierarchy-enhancing preferences identified in Social Dominance Theory (SDT). Developed by Sidanius and Pratto (1999; see also Sidanius, 1993; Sidanius et al., 1992), SDT extends social identity research to explain how group-based hierarchies remain a consistent configuration within all social structures from small organisations of a dozen people to societies of millions. SDT identifies three recurring patterns of hierarchy based on age (i.e., older people hold more power and status than younger people), gender (i.e., men hold more power and status than women), and an arbitrary set or category (Sidanius, et al., 2001). This arbitrary category can take many forms, including ethnic or racial, socio-economic (e.g., caste and social class), cultural (e.g., religion), national, and more. These hierarchies manifest in society as hierarchical systems of oppression, such as racism, classism, and nationalism (Sidanius & Pratto, 2001).

While authoritarian predispositions address coordination concerns, this side of group-ishness addresses concerns related to power and resource distribution. A key consequence of these hierarchies is inequality in the distribution of power, rights, and resources, with social groups higher on the hierarchy receiving relatively more than the groups below them (Sidanius & Pratto, 2001). While such hierarchies are consistently observed in society, the individual inclination towards hierarchy varies from person to person. This individual variation is most commonly measured with Social Dominance Orientation (SDO), which captures where on the spectrum between support for versus opposition to intergroup inequality each of us lies (Sidanius, et al., 1994). This scale includes two subdimensions: preferences for dominance and opposition to equality. Preferences for dominance pertain to a preferred (or even assumed) superiority and forceful dominance of a group above others, while the equality preferences pertain to the overall (hierarchical or equal) structure of status and resource distribution in society (Ho et al., 2012, 2015).

Like authoritarianism, these preferences for between-group hierarchy are inherently political, in the sense they deal with the distribution and negotiation of power, and we do indeed observe consistent links of SDO with contemporary political preferences. Decades of internationally-conducted research confirms the link between SDO and support for ideologies, policies, and

behaviours that perpetuate and even increase economic and social inequality between groups, such as fiscal conservatism and anti-welfare policies, anti-immigrant attitudes and policies, ethno-nationalist attitudes, and more (Dunwoody & McFarland, 2018; Scott & Safdar, 2017; Assche, et al., 2019; Womick, et al; 2019; Thomsen, et al, 2008; for reviews, see Pratto, et al., 2006; Sidanius, et al., 2016).

The specific link between SDO and political preferences, including voting behaviour and general support for right-wing parties and candidates, has also been observed in multiple countries. Recent cross-sectional studies in various political settings confirm that relatively high SDO has been found to predict support for Donald Trump in the US, Brexit in the UK, and far-right parties in Western Europe (Cornelis & Van Hiel, 2015; Crowson & Brandes, 2017; De Zavala, et al., 2017; Womick, et al., 2018; for a meta-analysis, see Van Assche, et al., 2019). Given this strong and consistent link, dominance and hierarchy cues in political communication may be particularly influential, and recent research suggests that individual levels of SDO do indeed shape the way voters respond to dominance cues, such as sexism, communicated by candidates (Banwart & Kearny, 2018). This evidence suggests that our concern for social comparison plays out not just in terms of ingroup preference and outgroup discrimination, but also in terms of particular orientations toward intergroup hierarchy. Both sets of processes are evoked by the domain of politics, in which the dynamics of power and coalitions are key.

Fairness and egalitarian preferences

While the study of hierarchy preferences includes consideration of equality and opposition to it, preferences towards equality deserve distinct mention and examination. Also pertaining to power and resource distribution concerns, egalitarianism is the preference for equality, rather than dominance, in the societal structure of social groups (Sheehy-Skeffington & Thomsen, 2020). Early intergroup research also identified these preferences. Most findings from minimal group paradigm experiments emphasize the intergroup discrimination, and early researchers of this paradigm focused attention on the discriminatory phenomenon they observed, describing it as ingroup solidarity/favouritism and outgroup discrimination. Yet, they also cited preferences for fairness as a pull away from discriminatory impulses (Tajfel, 1970; Doise et al., 1972). In fact, Tajfel (1970) called these “groupness” and “fairness” (p. 102), and the experimental context forced participants to weigh those two predispositions.

Different circumstances and implied social dynamics seem to determine whether we are inclined towards dominance or towards equality in an intergroup situation. In a lab experiment, if competition was anticipated, participants were more likely to enact dominance preferences and discriminate against the out-group, but not if cooperation was anticipated, in which fairness preferences were enacted (Doise et al., 1972). Notably, which between-group hierarchical approach we employ can be influenced by the context or particular social dynamics at play. We will return to the context-specific deployment of different social commitments in a later section.

These social and egalitarian instincts are so fundamental to human social cognition that they are observable as early as infancy. Before children can even speak, they demonstrate expectations for equal distribution of resources and judge others based on adherence to these fairness norms (see Ziv & Sommerville, 2017; Sommerville & Enright, 2018; Margoni & Surian, 2018; Buyikozer Dawkins, et al., 2019). Individual differences in egalitarianism are even apparent at this age; infants who were sensitivity to inequality were more likely to behave altruistically (Ziv & Sommerville, 2017).

An understanding of social dominance also appears at this age. Infants expect unequal distribution of resources when dominance between social agents has been made clear, but they expect equal distributions in the absence of a dominance structure (Enright et al., 2017). These findings suggest our expectations of resource distributions are also influenced by the context of the situation (Enright et al., 2017).

One potential explanation for this strong link between dominance and egalitarianism preferences may be genetic. A recent twin study found that individual variation in dominance versus egalitarian preferences was more grounded in genetics than in the shared environment between the twins (Kleppestø, et al., 2019). These findings suggest that dominance and egalitarian preferences are genetically encoded and inherited rather than only socially acquired early in life (Kleppestø, et al., 2019), although the largest part of their variance is attributable to life experiences unique to each twin (i.e., outside of the home). Moreover, the genetic correlations between dominance and egalitarian preferences with political attitudes indicate common genetic foundation (Kleppestø, et al., 2019). Since these social instincts are, at the very least, linked in terms of when they emerge and potentially genetically inherited, it is unsurprising that similar links are also observable later in life. Moreover, the genetic grounding of dominance and

egalitarian preferences provides evidence for a line of causation from those group-based social commitments through to political preferences.

Preferences for how to distribute power, rights, and resources between groups in society are fundamental to both historical and contemporary politics. These likely-inherited, hierarchy-related orientations begin shaping our cognition and behaviour in infancy and continue to be predictive of social and political cognition and behaviour later in life. Taken together, preferences for dominance and equality make up the third central aspect of group-ishness investigated in this thesis.

A pluralist approach to the activation and deployment of group-based social commitments

Having reviewed the core aspects of our group-ishness, we can reconceptualise our fundamental question within this literature. Which dimensions of our coalitional psychology matter the most for operating as a voter in modern political systems? Rather than pitting theories against each other in attempting to identify one overarching theory to explain all intergroup relations, I will take a more pluralist approach, in line with suggestions that certain theories are relevant under certain conditions (e.g., Rubin & Hewstone, 2004). This approach has directed scholars to investigate the contextual activation and deployment of our group-based commitments and ascertain which situations engage with which aspects of our coalitional psychology.

A key example of this pluralist approach is the Dual-Process Model (DPM) which proposes studying authoritarianism (via RWA) and egalitarianism (via SDO) in tandem (Duckitt, et al., 2002). The DPM outlines a structure in which authoritarianism and egalitarianism are the two fundamental pillars of political and intergroup ideology, and they each have distinct foundations (Duckitt, et al., 2002). According to this approach, authoritarian preferences are shaped by social conforming (i.e., ingroup norms) and belief in a dangerous world (i.e., outgroup threats), while dominance preferences are shaped by toughmindedness (i.e. an aggressive and dominance-oriented mindset) and belief in a competitive jungle world (i.e. between-group competition; Duckitt, et al., 2022).

Duckitt's model implies that our motivation and cognition are driven by these dual processes and are employed in different kinds of social situations and dynamics. Since authoritarian preferences concern ingroup norms and values as well as perceived threats to those, RWA scores

reliably predict negative attitudes towards people who break the law (e.g., drug dealers and users) and disrupt safety (i.e., terrorists and criminals), while SDO does not (Duckitt & Sibley, 2007). On the other hand, since dominance preferences concern social competition and hierarchy, SDO reliably predicts negative attitudes towards low status groups (e.g., immigrants, the unemployed, and mentally handicapped), while RWA does not (Duckitt & Sibley, 2007). RWA also consistently predicts negative feelings towards people who defy social norms, cause disagreement, and disunity, while SDO does not, and yet, both RWA and SDO predict negative feelings towards particular dissenting groups, such as those which challenge authority and existing social structures (e.g., protestors and feminists; Duckitt & Sibley, 2007). To summarise, the DPM suggests that RWA is activated when an outgroup threatens the ingroup values and norms (Duckitt & Sibley, 2010a), and SDO is activated by intergroup competition and inequalities in status and power (Duckitt & Sibley, 2007).

An emerging theory, based on the different forms our social relationships take, extends this general pluralist approach. Fiske's (1991, 1992, 1993) research on the basic modes of sociality among a variety of ethnic and national groups from countries around the world identified four universal forms of social relationships: communal-sharing, equality-matching, authority-ranking, and market-pricing. Communal-sharing relationships refer to those marked by communality, where resources are pooled and shared, such as the way food is available in a family. Equality-matching relationships involve an equality and balance between the people involved, where peers take turns and engage in an even or reciprocal resource distribution, such as peer-to-peer interactions. Authority-ranking relationships are hierarchical in nature with clear markers of status and power inequality, such as boss and employee or parent and child. Market-pricing relationships refer to interactions where proportionality and an exchange of matched values are key, such as customer and seller. We engage in all four forms of social relationships, and yet social context and dynamics determine which one is appropriately employed for particular relationships (Fiske, 1993).

Fiske's unified theory of social relationships refers to our person-to-person interactions, and in recent years, Sheehy-Skeffington, Thomsen, and colleagues have extended this theory from the social to the societal, arguing that we apply a preferred relational model to societal questions of intergroup resource distribution. (Sheehy-Skeffington & Thomsen, 2020). In an attempt to develop a measure of all four relational models, the SDO sub-scales for dominance and equality are used as the measures of hierarchy (authority-ranking) and equality (equality-matching)

preferences respectively with novel scales measuring preferences for communality (communal-sharing) and proportionality (market-pricing; Sheehy-Skeffington, et al., 2022). Research using this new scale has found that these relational preferences vary meaningfully on an individual level and predict political preferences among a representative sample of Danish voters in an exit poll following the 2019 Danish election (Sheehy-Skeffington, et al., 2022). Preferences for hierarchical and proportional relations in society predicted right-wing voting, while preferences for communal and equal relations predicted left-wing voting (Sheehy-Skeffington, et al., 2022). These relational preferences were also linked to attitudes about how the country should be governed (i.e., representative and direct forms of democracy) and who has the authority to govern (i.e., strong leader and military) as well as socio-political perceptions, specifically populist sentiment (Sheehy-Skeffington, et al., 2022).

Like other pluralist theories, this relational approach relies upon both stable and consequential individual variation and yet contextual influence. Put another way, this relational approach contends that individuals' relational preferences meaningfully vary; and yet which relational model we prefer to apply depends on the particular context of the situation and social dynamics (see Fiske, 1992; Sheehy-Skeffington & Thomsen, 2020). What differentiates this approach from others is that it provides an explanation for the underlying cognitive structure for intergroup preferences by building upon our interpersonal forms our sociality takes, suggesting that the frameworks we use to navigate politics is based on the cognitive structure used to navigate interpersonal relations.

As this brief review of relevant pluralist theories on intergroup preferences suggests, no one theory can or should be used to explain contemporary political behaviour, because our group-ishness is contextual and adjusts to the particulars of each specific electoral context. These different circumstances and contexts tap into the different aspects of our group-ishness. While context is clearly important, this thesis focuses on the group-based preferences which are consistently implemented to navigate political questions, rather than how the societal context or the specific characteristics of a nation impact which aspect of our group-ishness is deployed. As this overview of the key aspects of group-ishness (i.e., group-based social commitments) indicates, this thesis focuses on a specific set of group preferences or more colloquially a cognitive "toolbox" and investigates whether they directly influence political decisions. The pieces in this toolbox, specifically the way that we are oriented towards group membership, within group authority and organisation, and between-group equality or hierarchy, all play highly

influential roles in the way we think, feel, and behave in contemporary political contexts, according to the findings of this thesis.

Personalisation of politics and perceptions of group leaders

Choosing who should lead and govern our group (or voting) is one of the fundamental questions of power in society. Given the importance of voting, let us ask the central question of this thesis in another way: which aspects of our coalitional psychology do we most consistently pull from to decide who should lead our group? As this intergroup literature suggests, which groups we belong to, our level of identification with those groups, our preferences for within group organisation, our adherence to various within-group authorities, our preferences for dominance and hierarchy as well as our preferences for equality between groups and fairness are all relevant aspects of our group-ishness for deciding who should govern our groups.

In recent decades, scholars have argued that candidate traits (rather than parties and their positions) have become more important in shaping vote choice because the personality or personal characteristics of candidates have become more important than parties and their policy positions. This argument is commonly referred to as the “personalisation” of politics (for reviews, see Cross, et al., 2018 and Adam & Maier, 2010). The personalisation proposition suggests that campaign strategy, media reporting, and voting behaviour are all increasingly based on perceptions of candidates, instead of issues and the parties’ positions (Adam & Maier, 2010). They contend that overall attention in politics has moved from parties to politicians and from issues to individuals.

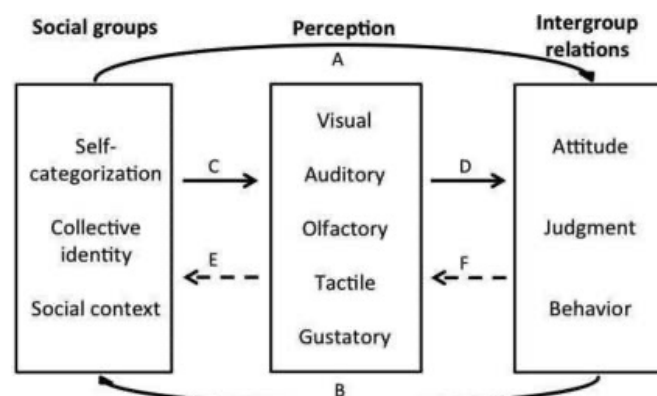
However, the evidence to support this idea of an increasing personalisation is mixed at best, with some contending that the focus on individual politicians, their actions, their triumphs, and their personalities is not increasing and instead has been consistently important throughout history (e.g., Radunski, 1980; Briggs & Burke, 2002). In a review of existing empirical studies on personalisation in campaign materials and media reporting, Adam and Maier (2010) observed inconsistent trends. The importance of candidates in campaign materials appears to vary by election and by country, while media reporting has increased how much content focuses on the personal lives and traits of candidates, especially in specific contexts (Adam & Maier, 2010). For instance, research on the candidate-driven versus issue-driven nature of political TV ads and broadcasts from American, British, and French campaigns from the 1950s to early twenty-first century suggests that they have not become more candidate-centric; instead, issues were found

to be equally or more important than the traits and personality of the candidate (for a review, see Adam & Maier, 2010). Some researchers did observe a decrease in party appeals, but this was not replaced by a greater focus on the individual candidates (Gilens, Vavreck, & Cohen, 2007).

On the other hand, evidence exists to suggest media coverage has increasingly featured content on individual candidates rather than parties or policies in Western democracies, especially the US, the UK, France, and additional European countries with presidential systems (Adam & Maier, 2010); however, these trends are not observed consistently in parliamentary systems, particularly Germany (for a review, see Adam & Maier, 2010). While campaigns have not consistently increased their focus on presenting candidates as individuals, the news media has generally increased their personalisation content and therefore increased voters' access to personal information about candidates.

Perceptions of candidates' traits has, therefore, become an important area of study, as a way to understand which attributes – beyond party affiliation – are most influential on voting decisions. We must, therefore, consider the mediating role that perception plays between individuals' group-based preferences and voting behaviour. The perceptual model of intergroup relations proposes that the way in which we perceive external stimuli is influenced by social group dynamics (Xiao, et al., 2016). Perception, in this model, refers to the processes that include judgement, estimation, and mental representation in response to stimuli that is directly as well as indirectly experienced (i.e. in the mind's eye; see Xiao, et al., 2016). This perceptual model highlights perception as a key psychological process, linking individuals' social identities and group-based preferences with resulting behaviours (see Figure 1; Xiao, et al., 2016).

Figure 1: A perceptual model of intergroup relations



According to this model, membership in social groups (e.g. racial and ethnic groups, political parties or ideological groups, as well as arbitrary groups such as fans of sports teams) shapes sensory perceptual processing (e.g. our processing of visual information and faces as well as sounds, smells, and tactical information), and this, in turn, mediates group-based behaviour and intergroup relations (Xiao, et al., 2016). In line with the perceptual model of intergroup relations, scholars such as Campbell and colleagues (1960) would suggest that one key function of identification with a political party (i.e. partisanship) is that it shapes the way we view and evaluate potential group leaders or political candidates. This model provides a structure for conceptualizing how our group-ishness, particularly our social commitments, influence and shape perceptions of political candidates, which, in turn, may influence voting decisions.

While the perceptual model of intergroup relations focuses on how group-related processes may shape social perceptions, it also raises the question of how group concerns may determine which kinds of perceptions gain greater salience over others. A popular framework for perceived candidate traits emerged in the 1980s, identifying four distinct dimensions of candidate perceptions: competence, warmth, leadership, and integrity (Kinder, 1986). Empirical research using this framework has confirmed that Western voters consistently form views on candidates along these perceived traits, and these perceptions are highly linked to voting decisions (e.g., Bartels, 2002; Fridkin & Kenny, 2011). This empirical work has demonstrated that voters consistently rely on perceptions of these candidate traits when assessing candidates and use them to inform their electoral decisions (e.g., Bartels, 2002; Fridkin & Kenny, 2011).

However, which perceptions of candidate traits are the most relevant to political and electoral decision-making continues to be debated. A wealth of political science literature has focused on perceptions of competence and indicates this candidate trait is highly important (e.g., McGraw, 2011 and McAllister, 2016), while social psychology literature on this topic highlights the importance of warmth perceptions in shaping candidate judgements (e.g., Wojciszke & Klusek, 1996). A study, including all four perceptions from Kinder's (1986) framework, demonstrated that warmth was the strongest correlational predictor of vote choice among the four and that warmth was more influential on vote choice as compared with competence in an experimental setting (Lausten & Bor, 2017). Taken together, these streams of work are in line with existing social psychological research on social perceptions (Fiske, et al., 2002), which suggests that there are two universal dimensions of social perceptions: warmth and competence (see Bittner, 2011 and Ohr & Oscarsson, 2013).

As highlighted in a previous section, a new understanding of leadership has emerged, which conflicts with this account of trait-based leadership. Haslam and colleagues contend that leadership cannot be understood without consideration of followers and the social group they share (Haslam, et al., 2020). Leadership is therefore understood as a process through which leaders, together with followers, create a shared sense of social identity, and effective leaders embody this shared social identity and cultivate themselves to be prototypical of the ingroup (Haslam, et al., 2020). Therefore, this account of identity leadership implies that specific traits or characteristics are not inherent to leadership. Instead, the most desirable characteristics of a potential leader depend on the characteristics of the group (Haslam, et al., 2020).

This idea of identity leadership highlights the importance of a shared social group between followers and leaders. Our perceived social proximity to political candidates or our perceived similarity could therefore be important in shaping candidate assessments and resulting voting decisions. Interestingly, the way perceptions of candidate warmth have been measured in the past often taps into a perception of closeness or similarity. In the aforementioned cross-sectional study, a survey item, measuring warmth, asked to what extent does the candidate “care about people like you” (Lausten & Bor, 2017). Part of this survey item is indicating the “caring” dimension of warmth perceptions as outlined by Kinder (1986), but it also prompts the respondent to consider how much attention or care this candidate hypothetically gives to members of one’s own ingroup (Lausten & Bor, 2017). Rather than conflating it with warmth, how similar or how much we identify with candidates should be considered in its own right, and yet, the existing literature has not investigated the importance of this candidate perception.

Voting and leadership

Overall, in such studies on candidate perceptions, voting is assumed to be an act of endorsement, which can be predicted by positive perceptions. While this thesis broadly agrees with the social conception of voting as endorsement, it is worth noting certain nuances and philosophical facets of voting. Voting is essentially the individual choice within collective decision-making, and a vote choice can take place in many different circumstances, systems, and topics (see Jones, 1994). These systems can engender different expectations or considerations for the voter. For instance, a parliamentary system which involves parties forming coalitions to rule as a government might shape voters’ decision-making and weigh the potential collaboration or cooperation between parties when deciding how to vote. Alternatively, a first-past-the-post

system, like those in place in the UK and US, set up elections as a form of intergroup conflict with the candidate garnering the most votes in each parliamentary seat, congressional or legislative district, or state winning the election. Such a system might place more emphasis on combative or competitive concerns in the mind of the voter. The varying dynamics of such electoral circumstances and voting systems can accentuate the conflictual or collaborative expectations for the elected leaders, which is confirmed to influence preferences for potential leaders (see Gleibs & Haslam, 2016). The expectations for collaboration or competition in an electoral setting can have quite high stakes, such as increasing or decreasing the potential for political violence during democratic processes (see Dunning, 2011). The considerations of these different systems, although, largely assume voting to be a question of leadership. Who shall lead our group? Who shall have power and who should not have power? Who shall they work with or not collaborate with once they have this power?

Another way to understand voting pertains to concerns of representation rather than leadership. Voters may be seeking out leaders who will represent them, their groups, or their ideology in the governing body. While this understanding differs from the conception of voting as an endorsement, the two could be understood as complimentary. The reason why someone might use their vote as an endorsement is the desire to have certain aspects of themselves represented or enacted. Integrating these two conceptions of voting bring together the individual and collective aspects of voting. Unlike other individual choices, such as consumer choices, voting pertains to an individual preference for the broader community or society (see Buchanan, 1954), and these voting choices include public policy decisions (i.e. referenda) and more commonly refer to leadership decisions between individuals and/or parties. Voting is therefore inherently an individual and collective act, which can involve conflict and collaboration between groups in society. Since group-ishness, as defined in this thesis, incorporates the individual differences between people along a set of preferences for the collective, voting can be conceived as the behavioural extension of the concept of group-ishness.

Along a similar vein, leadership is understood within this thesis as a group process, shaped by both the followers and leaders, similar to Haslam and colleagues' (2020) conception of leadership. More specifically, leadership is understood to involve shared social commitments between the followers and political leader, as opposed to Haslam and colleagues' (2020) broad conception of shared group characteristics. Given this group-based understanding of leadership,

empirical research on this topic must take the both follower and the leader, the voter and the candidate into consideration.

A deficiency of causal inference and election-setting validation

A number of methodological challenges are involved with studying the underlying influences on political cognition and behaviour. Establishing causality of individual psychological traits that cannot be varied in an experimental setting present an obvious challenge, and so the vast majority of the literature cited in this chapter relies on observation and correlational data. Additionally, research on this topic is often designed to only consider the voter or the candidate and not both simultaneously. Much of this scholarship also focused on the overall effects observed in a sample, which is therefore dependent on the representativeness of the sample. This focus on overall effects also obscures potentially important conditional effects, which vary with characteristics of each individual. Lastly, self-reported vote choice as well as candidate evaluations present challenges related to social desirability as respondents can feel pressure to say they have voted when they have not and to deny voting for controversial or losing parties. I will discuss each of these three methodological challenges and explain how this thesis both addresses these challenges as well as acknowledges the limitations of the methods employed.

As mentioned, the most common method employed to identify the underlying drivers of political preferences and behaviour involves correlational studies. In such studies, survey data is used in regression models where the outcome variable is usually vote choice, vote intention, or ratings of politicians or political parties, all of which are related to existing politicians and parties. The models are fit with predictors, such as the hypothesized drivers, as well as any potential covariates, such as related attitudes, ideologies, and demographic factors. The strength of such a design is that it allows researchers to compare the associations of various factors with the outcome variables, but the primary weakness of this approach is that it assumes rather than confirms causation. A reliance on correlational studies has led to the identification of factors which likely have a spurious association with political preferences caused by the omission of confounding variables. For instance, a number of studies have identified a link between Big Five personality traits (e.g., openness linked to left-wing preferences and conscientiousness linked to right-wing preferences) based on correlational evidence and vote choice, but recent research indicates the inclusion of other factors (in this case, class and household) nullifies the relationship between openness and left-wing preferences (Prosser, et al., 2022).

Experimental designs, appropriate for studying political decision-making, are becoming more common. Conjoint and other discrete choice experiments enable the variation of multiple factors simultaneously, and these designs allow us to identify and isolate the most influential treatments. Conjoint experiments have consistently been used to study which attributes cause respondents to select one candidate over another, beginning with Hainmueller and colleagues (2014). These studies have considered the effect of candidates taking different policy positions (Hanretty, et al., 2020; Horiuchi et al., 2018) while others have investigated the relative impact of demographic attributes, such as gender, race, class, occupation, and education levels on vote intention (e.g., Carnes & Lupu, 2016; Gift & Lastra-Anadón, 2018; Marx & Schumacher 2018; Wüest & Pontusson, 2018; Schwarz & Coppock, 2020).

Given the benefits of these experimental designs, this thesis employs a series of survey experiments to identify which treatments increase or decrease the likelihood of voting for a hypothetical candidate, and how the effects of those treatments vary across individuals with different pre-existing orientations towards groups. Not only are experiments necessary to establish causation, but they are particularly useful considering the effects of group-ishness on behaviour. As noted by Tajfel (1970) when developing the minimal group paradigm, group-related biases occur in social contexts where actual behaviour can be observed. Experiments, which recreate social contexts, require the participants to make decisions and reveal group biases in action, enabling both contextual and causal inferences not available when analysing the correlation of attitudes. The socially situated nature of group-ishness means it is particularly suited to be studied experimentally with vote choice or vote intention as the dependent behaviour. Yet, minimal group paradigm experiments are immersive and expose people to real social experiences, as opposed to survey experiments that only give momentary exposure likely amidst the distractions of doing online studies.

The first paper in this thesis investigates how candidate signals of group-based social commitments influence vote choice, particularly conditional on the voter's own group-based preferences. This experiment, conducted in the United Kingdom in 2019 presented two candidate profiles, varied nine different group-related social psychological attitudes communicated by candidates in hypothetical social media posts, and ask participants to make a vote choice. We matched the participants' previously collected survey responses for the corresponding group-based attitudes to determine if the participant's coalitional psychology conditioned the way they responded to the candidate signals. The second paper in this thesis

builds on Paper 1 by introducing socio-demographic and partisan candidate attributes to the group-based social commitments identified in Paper 1. Paper 2 includes two experiments, where participants review candidate profiles and rate them for leadership traits and perceived similarity. We conducted these two experiments in the United Kingdom (October 2021) and the United States (August 2021) to vary the national context.

Understanding leadership as a process constructed by both the followers and leader requires methods that can account for both in the research design. However, it can be difficult to incorporate both the signal from candidate and the mindset of the voter in an experiment design, without impacting the measurement of the participant's constructs. The experiments in Papers 1 and 2 address this with a novel design, which matches previously collected survey responses to our experiment responses and interacts the construct measurements of the participant's group-based preferences with the corresponding candidate signal, which is the experiment treatment.

Despite their benefits, such experiments have limitations as noted above. Survey experiments struggle to recreate realistic conditions of an election context where voters are exposed to information from campaigns and news media over an extended period of time. It is also difficult if not impossible to account for all potential candidate attributes involved in voting decisions. This limited external validity can constrict and at the very least temper the application of the subsequent findings to real elections and other contexts.

Another major methodological challenge common in the relevant literature is a focus on the overall effects of experimental treatments. Regression models fit to predict political preferences or behaviours produce coefficients that estimate the direction and slope of the association between the outcome and predictors across the entire sample. The most common way to investigate factors that are likely to condition or impact the correlation with the outcome variable is to introduce interactions, but these are more rarely investigated and require larger data sets. Most experimental studies in this literature have had small convenience samples and have therefore focused on the overall effects of treatments, rather than on how these vary across different individuals.

While overall effects are rightly the focus in most studies, this approach can obscure important conditional effects. Analysis of overall coefficients will not reveal which if any participants' characteristics influence the way they react to the survey question or experimental treatments.

Even strong differential effects are hidden when only the overall effect is considered. Moreover, the representativeness of the sample determines whether the overall effect observed is an accurate estimate for the intended population or not, meaning a skewed sample can result in an overall effect that is in fact only inferable for the population which has been over-sampled. Estimating mean values or effects for a population unquestionably requires representative samples; studies more focused on *process or mechanism* have a lower demand for this. Focusing on the process in which attributes condition reactions to experimental treatments seeks to identify differential effects for those in the population who have those attributes but does not, for instance, seek to estimate how many people with those attributes exist in the population. For these reasons, both Papers 1 and 2 in this thesis focus on the effects as conditioned by variables measuring the participants' group-ishness.

Lastly, few social psychological studies on voting have employed methods to validate these theories with actual votes and election results, and instead, they rely on self-reported vote choice, vote intention, and ratings of politicians and parties from opinion surveys. In addition to the potential lack of external validity, another key limitation of this approach is that we are relying on respondents to remember or tell the truth about something that may not be socially desirable, such as voting for a controversial party or even not voting in an election. Again, such studies are also subject to sampling challenges, including identifying who will actually make up the electorate of any particular election.

The third paper in this thesis addresses this deficiency of electorally validated studies of group-based preferences and voting. This study uses the group-ishness framework identified in Papers 1 and 2 to construct constituency-level estimates of those group-based orientations and demonstrates their utility in predicting constituency-level results in three UK General Elections between 2015 and 2019 as well as the 2016 referendum on EU membership.

This thesis focuses on the electoral context of group-ishness and the decisions we face in that context, specifically voting decisions, and the methods were selected to enable causal inferences and real-world validation. The methods summarised above allow me to explore and demonstrate these links experimentally and also validate this framework with actual election results.

Ethical concerns of researching and applying political group-ism

Given the political nature of this topic, researching it presents particular ethical considerations. The ethics of applying of this framework and these results should also be considered. While the specific methods employed (i.e. online surveys and experiments) do not engender particular ethical concerns, the political nature and especially the focus on authoritarianism does require the researcher to consider the national context and safety of the participants answering these surveys and experiments. The political context of the samples collected from the United Kingdom and the United States does not present any risks to the participants; however, in a context such as Hong Kong, participants' safety would be more of a concern since the expression of anti-government and even anti-authoritarian attitudes could place the participant at risk of violating China's recent national security laws. Given the circumstances in the UK and US, this is not a consideration, and the lack of risk for our participants was presented in the ethics protocol documents for the studies in Papers 1 and 2, which were submitted and approved by the LSE Research Ethics Committee. Additionally, in an effort to engage with open research practices, the studies in Paper 2, including our hypothesis, study design, and analysis plan, were pre-registered via the Open Science Foundation.¹

The application of this framework, on the other hand, presents more nuanced ethical concerns. Published academic research can potentially be applied by practitioners and therefore the ethics of such must be taken into account. To review the potential ethical concerns of applying this framework in political messaging, I will reference Lades and Delaney's (2022) framework FORGOOD, in which the letters refer to these principles they recommend for assessing the application of 'nudges' to public policy: Fairness, Openness, Respect, Goals, Opinions, Options, and Delegation. While all are not relevant to this question of applying group-ism to political communication, I will highlight the specific FORGOOD criteria that are most helpful to answer this query.

A major concern about applying psychological research to political communications (where the aim is persuasion) is that these communications will manipulate voters, and so the first FORGOOD criteria to consider is Respect. The concern about manipulation implies that the voters, themselves, are not intellectually or cognitively equipped to detect how the political communication is influencing them. Concerns around manipulation usually rest on the

¹ To review our pre-registration of these studies, please see <https://osf.io/sj9vp>

assumption that voters lack the mental faculties to review the information presented to them in political contexts, or that such contexts preclude the mobilisation of such faculties. If taken to an extreme, this comes close to violating the Respect criterion as defined by Lades and Delaney (2022). As they write, “respecting autonomy means that nudges do not treat adults as if they were children whose capacities for making good decisions are not being taken seriously” (Lades & Delaney, 2022). The political communication of information or ideas that tap into a voter’s sense of group-ishness may influence a voter in a way that they are not fully conscious of, and yet, we as researchers and practitioners must respect the abilities of voters to use political communication of this nature to discern and respect their freedom to decide for themselves. While the study of this communication respects the autonomy and faculties of the participants, the application of these findings engender additional ethical concerns.

Next, in reviewing ethics of the applying group-ishness in political communication, we will consider the goals of such communications. Thaler and Sunstein (2008) state that the goal of nudges or behavioural interventions are to make people’s lives “better off, as judged by themselves”. The goal of politicians and political parties, communication with voters, is to convince voters to vote for them, often by persuading voters that they are the leaders who will enact a certain set of policies or a broader vision for society. In this way, politicians communicating messages that tap into group-ishness are providing voters with key information for them to decide if that candidate or party will make their life “better off, as judged by themselves” (Thaler & Sunstein, 2008). Applying the insights from this thesis to political communications thus has potential to further this welfare-enhancing criterion.

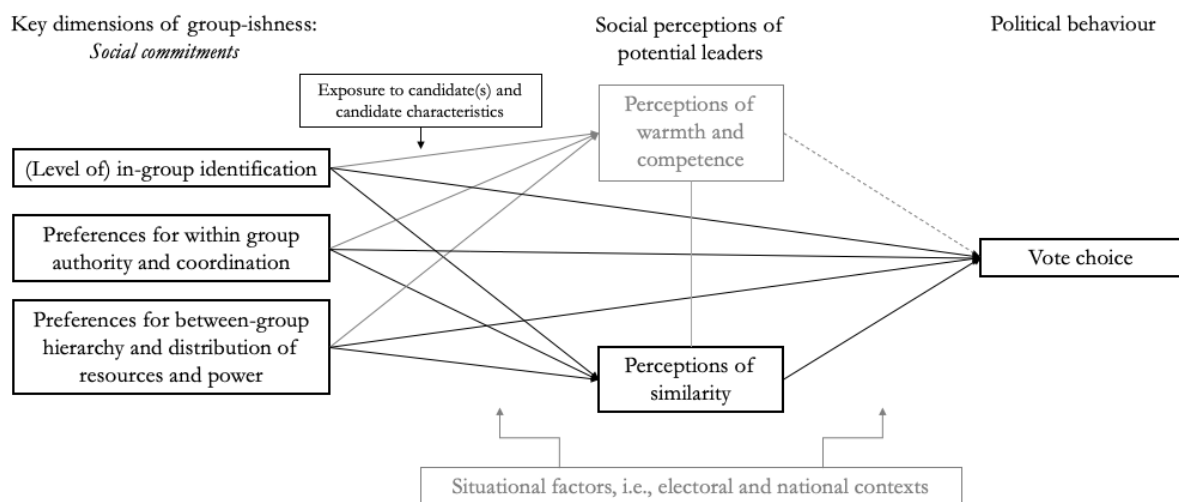
Lastly, political communicators who are employing group-ishness to construct their messaging could potentially be attempting to distract voters’ attention from other information which harms the reputation of the politician or party, such as relying on national or patriotic appeals after a personal scandal has been revealed. They could also use the group-ishness framework to mislead or misinform voters, such as exaggerating the number of people immigrating illegally. This would violate the principle of Openness highlighted by Lades and Delaney (2022). Any communication from public officials, including candidates and spokespeople, that is not truthful or transparent would violate this principle, and that which utilizes group-ishness would be additionally unethical because of its effectiveness as demonstrated in the empirics of this thesis. While the research outlined in this thesis does not provide insight or tools that would enhance

the likelihood of such deception, the importance of honesty should be emphasised in all studies and applications of the field of political communications.

Roadmap

This thesis builds upon the decades of research about how we decide who should lead and govern, and it proposes an evolutionarily based, group-oriented, and pluralist framework for what shapes these decisions (see Figure 2). This thesis extends the group-based elements of classic political behaviour theories, such as Lipset and Rokkan’s (1967) emphasis on the importance of intergroup conflict or cleavages and the Michigan model’s focus on the role of ingroup membership (i.e., partisanship; Campbell, et al., 1960). It also brings together broader frameworks of political cognition to suggest a group-based, pluralist understanding of voting. I argue that voting decisions tap into our coalitional psychology and compel us to employ different orientations based on group membership, ingroup authority preferences, and intergroup dominance preferences.

Figure 2: A model of group-ishness for political leader perceptions and voting



The first paper in this thesis identifies shared group-based commitments as highly influential on voting decisions. Beginning with a broad consideration of social feelings, social perceptions, and social commitments, the first study in this paper confirms the importance of group-based preferences based on the commitment to a shared group and to principles for distributing power and resources within the shared group as well as between groups. Crucially, it is the recognition of *shared* social commitments between the candidate and voter which shapes vote choice.

Relevant work on this topic often considered one aspect of this group-ishness in isolation rather

than assessing them together, and this paper brings those different research streams into conversation with each other. This study, however, did not include partisan affiliation of the candidate, a gap addressed in the following paper.

The second paper builds on Paper 1 and confirms that shared group-based commitments are underlying both perceptions of similarity between voters and candidates as well as vote intention. This paper also considers perceived similarity alongside the traditional candidate traits of competence and warmth, and the results indicate perceived similarity is more closely linked to vote intention than candidate warmth or competence. The studies in this paper also compare shared group-based preferences with other key factors such as political affiliation and socio-demographic characteristics, finding that shared group preferences, including shared party affiliation, are more influential on perceived similarity and voting than shared demographic characteristics. These two papers identify a consistent framework of group-ishness in these experimental settings of two different countries; however, they do not provide evidence of these group-based dynamics in a real election. The absence of this is addressed by the final paper in the thesis.

The third paper considers this framework within actual election contexts and explores the utility of such a framework for predicting vote choice and election results. By investigating individuals' vote choice, undecided voters' vote choice, and parliamentary election results, the studies in this paper compare the relative predictive ability of group-based preferences with traditional predictors of political ideology and demographics. Existing literature on the connection between group-based orientations and political attitudes or behaviour focuses almost exclusively on the individual level, and so this paper builds upon this work while extending it to the group-level of parliamentary constituencies.

Overall, this thesis contributes to the growing literature linking our evolutionary group-ishness to vote choice and provides evidence of its causal role in shaping voting decisions and its predictive utility in elections.

3. A leader who sees the world as I do:

Voters prefer candidates whose statements reveal matching social psychological attitudes

Authors: Denise Baron, Benjamin Lauderdale, & Jennifer Sheehy-Skeffington

Abstract

Politicians are increasingly able to communicate their values, attitudes, and concerns directly to voters. Yet little is known about which of these signals resonate with voters, and why. We employ a discrete choice experiment to investigate whether and which social psychological attitudes predict how adult British voters respond to corresponding attitudinal signals communicated by candidates in hypothetical social media posts. For all attitudes studied, covering social feelings (trust, collective nostalgia), social perceptions (nationalism, populist sentiment), and social commitments (national identification, authoritarianism, egalitarianism), we find that participants are much more likely to vote for candidates who signal proximity to their own attitudinal position and less likely for candidates who signal opposing views. The strongest effects were observed for national identification, authoritarianism, and egalitarianism, indicating the importance of commitment to a shared group and to particular principles for distributing power and resources within and between groups. We further demonstrate that social psychological attitudes are not acting as mere proxies for participants' past votes or left-right ideology. Our results extend adaptive followership theory to incorporate preferences concerning intragroup coordination and intergroup hierarchy, while highlighting the social psychological dynamics of political communication that may transcend the concerns of particular election cycles.

Key words: vote choice, intergroup relations, discrete choice experiment, adaptive followership, authoritarianism, egalitarianism

Social media has arguably given voters unprecedented access to the life and character of politicians beyond their party-political platforms. Whereas a decade ago, voters learned about candidate qualifications and policy views from their campaign literature, speeches, and online publications, they can now use platforms such as Twitter and Instagram to gain direct access to their personal values and concerns. Which of these sway voters' appraisal of a political candidate, and how might attitudinal signals resonate with some voters more than others?

Political psychologists have commonly studied the perception of politicians with survey data, highlighting either the preference for candidates who share personality characteristics with voters (e.g., Caprara & Zimbardo, 2004), or the preference for candidates with specific traits desired for specific circumstances (e.g., Lausten & Petersen, 2017). Such cross-sectional, or at best longitudinal designs, are limited in their ability to establish causality. Another approach is the use of conjoint experiments, which have demonstrated the causal impact of candidate traits as portrayed in profile vignettes, sometimes showing differential impacts depending on voter demographics, ideology, and issue positions (e.g., Hanretty et al., 2020). Yet the patterns of homophily along the lines of policy positions and demographic characteristics thus observed are not explained, leaving open the question of why voters seem to prefer candidates who are similar to them.

We attempt to bridge these fields by examining the causal impact of candidate signals of core social attitudes, conditional on voter positioning with reference to these same attitudes. We assess the impact of a range of attitudes, covering social feelings (trust, collective nostalgia), social perceptions (nationalism, populist sentiment), and social commitments (national identification, authoritarianism, egalitarianism). Building on accounts of politics as the adaptive management of group living (e.g., Petersen, 2015), we predict a strong role for social commitments as they index allegiance toward a group and toward principles for within- and between-group coordination. The use of a discrete choice experiment in a large, nationally representative sample for whom pre-existing attitudinal positions are known permits the assessment of the relative importance of these versus other attitudes in shaping voting decisions at later time points. In an era of ubiquitous social media, this enables us to ask: which attitudinal signals might cut through the noise to affect political decision-making, and for whom?

The influence of candidate characteristics on vote choice

Attempts to identify which candidate characteristics attract versus repulse voters have tended to focus on the job-relevant traits of the candidate, their policy platform, or their demographic background. Early research on candidate characteristics as determinants of vote choice suggested the influence of perceived traits such as warmth, competence, dominance, and leadership skills, as rated subjectively by respondents, using non-causal designs (for reviews, see Olivola & Todorov, 2010; Laustsen & Bor, 2017). This is supplemented by a small literature on the influence of job-relevant personality traits such as conscientiousness and emotional stability (Aichholzer & Willmann, 2020; Roets & van Hiel, 2009; see also Scott & Medeiros, 2020).

More recently, the use of conjoint experiments, involving the randomised presentation of candidates or party profiles that vary along multiple attributes, have yielded insights on which candidate characteristics cause respondents to select one candidate over another (Hainmueller et al., 2014). Some of these studies have demonstrated the effect of candidates taking different policy positions (Hanretty, et al., 2020; Horiuchi et al., 2018) while others have revealed the relative impact of gender, race, class, occupation, and education levels on candidate preference and vote choice (e.g., Carnes & Lupu, 2016; Gift & Lastra-Anadón, 2018; Marx & Schumacher 2018; Wüest & Pontusson, 2018; Schwarz & Coppock, 2020).

Designs involving the randomised presentation of candidate characteristics make it possible to consider the effects of such characteristics conditional on the characteristics of respondents, to search for any differential effects among particular voter groups. Using this approach, partisanship and left-right ideology emerge as moderators of the effects of candidate characteristics (Carnes & Lupu, 2016; Gift and Lastra-Anadón, 2018; Schwartz & Coppock, 2020), and a general pattern of homophily emerges, in which voters prefer candidates who match them on key demographic characteristics (Schwarz & Coppock, 2020; Wüest & Pontusson, 2020) as well as on political issue positions (Hanretty et al., 2020).

Preceding the use of conjoint studies, homophily in voter preferences had been observed along the lines of sociodemographic (Campbell et al., 1960; Cutler, 2002), personality (e.g., Caprara et al., 2007), and even appearance-related (Bailenson et al., 2008) traits. One influential explanation is that voters are drawn to politicians with similar personality traits because such traits act as heuristics for underlying personal values (Caprara & Zimbardo, 2004; see Caprara et al., 2007). This raises the possibility of using the advantages of the conjoint design to examine homophily

beyond surface-level (e.g., gender, ethnicity) or task-related (e.g., policy positions, leadership traits) characteristics. We apply this method with a focus on the personal values, attitudes, and concerns of both voters and politicians (see also Wager et al., 2021), addressing the critical question of whether voters are drawn toward politicians who seem similar to them along these deeper social psychological attitudes, potentially getting us closer to the core concerns that drive political behaviour in the first place.

Underlying mechanisms of voter homophily

If voters prefer political candidates who are similar to them as a way of finding leaders who share their underlying concerns (Caprara & Zimbardo, 2004, see Caprara et al., 2017), we might ask which underlying concerns are most salient to the situation of voting. A psychological lens has recently been brought to the study of voting, examining it in terms of the enactment of agency, identity, and emotion (see e.g., Bruter & Harrison, 2020; Huddy et al., 2015; Norris & Inglehart, 2019). We thus start by reviewing published research to identify the emotions, perceptions, and other psychological commitments found to predict voting, with the expectation that these same factors are what matter to voters as they evaluate candidates.

Emotions are rarely assessed in nationally representative surveys except through their application to political circumstances or governance. One widely studied affective factor is the feeling of trust toward political actors and institutions, with distrust historically linked to lower voter turnout, but more recently to turning out to support non-mainstream political parties (for a review, see Belanger, 2017). Another individual factor with emotional content is the feeling of nostalgia for a romanticised national past, which has been found to predict conservative political preferences in the United States (Lammers & Baldwin, 2018). We thus consider political trust and national nostalgia as two affective concerns that may be relevant as voters evaluate candidates.

Importantly, such affective motivations mobilise concerns that are not individual, but social, pertaining to relationships with others or to collective experiences. Indeed, a substantial literature has attested to the role of social groups in motivating voter behaviour, with partisanship being the most striking example (see Greene, 1999; Fowler & Kam, 2017; Mason, 2018; West & Iyengar, 2020). Group concerns take on a particular psychological potency when they are wrapped up in narratives claiming that a corrupt or illegitimate ‘elite’ are withholding power and

resources from a pure ‘people’, as is common in populist platforms with wider voter appeal (Mudde, 2004; Obradovic et al., 2020; Stanley, 2008). Another key group represented in voter concerns is that of the nation, as demonstrated by the findings that perceiving one’s nation is superior to others (i.e., nationalism) consistently predicts support for far-right parties in a meta-analysis of far right-wing voting (Stockemer et al., 2018). Populist sentiment and nationalism are thus two social perceptions worth considering as we investigate what is salient to voters at the point of candidate evaluation.

Digging deeper, social identities have been argued to play an important role in voting because voting triggers social cognitive mechanisms that evolved in early humans to cope with the selection pressures of cooperation within and competition between social groups (e.g., DeScioli & Bokemper, 2019; Petersen, 2015; Pietraszewski et al., 2015; Sidanius & Kurzban, 2013). Specifically, adaptive followership theory positions the evaluation of political candidates in terms of the selection of leaders with the most appropriate characteristics to address perceived group challenges, with some traits (e.g., dominance) more desirable at some times (e.g., during a conflict) than others (see Laustsen, 2021; Van Vugt, 2006). Extending this literature, we argue that to the extent that voter preferences reflect attempts to navigate coalitional challenges, they should be attuned not only to candidate traits, but specifically to candidate commitments concerning salient coalitions and the distribution of power and resources within and between them.

The foremost commitment is to the social group most salient to voters as they evaluate potential leaders: the nation. In line with the flexibility predicted by coalitional psychology theorists (see Pietraszewski et al., 2015; see also Tajfel & Turner, 1979; Turner & Oakes, 1989), voters should be attuned to signals of candidate commitment toward the nation versus competing sub- or supra-national groups, especially where national identities are nested (e.g., English, within British, within European). Indeed, one might expect that which identity adopts particular resonance in any one election depends on how political discourse has carved up the coalitional space historically in a particular context, as tuned upward or downward in the period preceding the election. National identification would thus have a minimal influence on voter behaviour in contexts where it is uncontroversial (e.g., New Zealand— Duckitt & Sibley, 2016), but play a more important role in contexts where tensions over allegiance to and sovereignty of the nation have historical and current political resonance (such as the UK in the context of Brexit (Ford & Sobolewska, 2018; Zmigrod et al., 2018). Yet, the importance of national identification as

signalled by political candidates in shaping electoral decisions has surprisingly not yet been studied, making it an important candidate trait for the current investigation.

Identification with the national group is not the only form of commitment to which a voter employing coalitional psychology should be attuned. We argue that they should also be concerned with the principles that a leader applies in resolving dilemmas arising from the distribution of power and resources within and between groups, and the role of hierarchy therein. In political psychology, these principles have been studied in terms of the two social psychological orientations theorised to underlie voter variation in ideology: authoritarianism and egalitarianism (e.g., Duckitt, 2001; see also Duckitt & Sibley, 2010b; Jost et al., 2009).

Authoritarianism denotes preferences for how authority and hierarchy-related principles should be applied within a group, focusing on the need for submission to strong leaders and the punishment of those who deviate from their orders and from established ways of doing things (Adorno et al., 1950; Altemeyer, 1981). Right-wing authoritarianism (RWA; Altemeyer, 1981) predicts the endorsement of strict prison sentences and the deportation of undocumented immigrants (Duckitt et al., 2010), in addition to support for right-wing and far right-wing parties and candidates (Van Assche, et al., 2019).

Egalitarianism is most commonly measured in the form of social dominance orientation (SDO; Pratto et al., 1994; Ho et al., 2015), an individual's preference for maintaining hierarchy *between* groups, with those high (versus low) in SDO endorsing a world in which some groups have more power and resources than others in society. Relatively high SDO predicts opposition to the extension of rights and resources to low power groups (varying from gay people to immigrants; for a review, see Sidanius et al., 2016), and support for right-wing and far right parties and leaders in the US, UK, and Europe (e.g., Cornelis & Van Hiel, 2015; Womick et al., 2018; see Van Assche, et al., 2019).

RWA and SDO are not only consistently predictive of voter preferences in a range of democratic contexts, they also predict personal values found to be influential in candidate evaluation. One recent conjoint study (Weinberg, 2020) found that British voters strongly prefer candidates who signal valuing universalism and benevolence, both of which are inversely correlated with SDO (Duriez & Van Hiel, 2002). The next most influential values were self-direction, security, and conformity, all of which tap into dimensions of RWA (Duriez & Van Hiel, 2002). As these basic

human values had more influence on candidate choice than any demographic attributes included in this experiment, including gender, age, ethnicity, education, occupation, marital-status, regional accent, and religion (Weinberg, 2020), the core social commitments they arguably tap might be a powerful source of homophily in voter preferences.

Supportive of this possibility, RWA and SDO were recently found to statistically mediate the positive association between self-rated personality traits and the personality traits of one's 'ideal politician' (Aichholzer & Willman, 2020), suggestive of the possibility that the concerns they index underlie observations of voter homophily on personal traits (see Caprara & Zimbardo, 2004; Caprara et al., 2017). Yet, personality similarity is a rather imperfect heuristic for deciding whether a politician will enact a policy agenda in line with one's core social hierarchical preferences, and recent evidence suggests that SDO and RWA have a genetically grounded association with policy preferences that is independent of personality traits (Kleppesø, et al., 2019). A key question is thus whether candidates *directly* signalling their positioning on these two core social psychological dimensions exerts a causal effect on vote intention, conditional on voter self-ratings on those same dimensions.

In summary, our attempt to explore voter homophily in terms of underlying mechanisms takes a broad view of the core values and concerns for which voters may be scanning when evaluating political candidates. Drawing on evidence for key social psychological predictors of voter behaviour, we examine the role of two social emotions (political trust and national nostalgia) and two social perceptions (populist sentiment and nationalism) found to be salient in voter decision-making. Looking deeper, toward evolutionary models of politics as a challenge of group coordination, we focus in particular on three core social commitments: national identification, authoritarianism, and egalitarianism.

The present study

We employ a discrete choice design to assess the causal impact of candidate signals indexing social emotions, perceptions, and commitments (collectively referred to as 'social psychological attitudes' or 'attitudinal traits') on decisions of voters who themselves vary on those traits, thus providing a methodological advance called for in the literature (McGraw, 2003) by considering both the signal from the candidate and the traits of the voter in the same study. As it is impossible to randomly assign attitudinal traits to respondents, the causal role of social psychological attitudes is difficult to study, while still being crucial to investigate and establish if

they are to be treated as more than predictive summaries of related attitudes. Although survey experiments are constrained in generalisability due to their inability to precisely replicate actual election settings, this design has the methodological benefits of enabling us to examine causal links between candidate traits and voting, which, when examined interacting with respondent traits, constitutes a powerful test of potential underlying mechanisms of patterns of voter homophily.

Our experiment takes the statements used in the assessment of such social psychological attitudes and presents them as having been expressed by hypothetical candidates on social media in the past. By randomly presenting the resultant candidate profiles to respondents drawn from the British Election Study panel for which we have prior attitudinal data, we are able to assess whether or not attitudinal traits of respondents measured as far back as five years previously predict how candidates expressing these or opposing traits are evaluated.

This method also enables us to uncover whether some traits play a more or less important role when put in tension with others, again addressing a call from the literature to use causal designs to compare the relative contribution of different social psychological attitudes to political vote choice (Dennison et al., 2020). Thus, in addition to the general examination of the role of social psychological attitudes in voter homophily, our more specific aim is to examine whether traits indexing commitment to salient groups and principles coordinating the distribution of power and resources within and between groups have a stronger influence on voter preferences than traits unrelated to such commitments. Based on the adaptive followership model of candidate evaluations (see Laustsen, 2021) and accounts of ideology grounded in evolved concerns for navigating social hierarchy (see Sidanius & Pratto, 1999; Sheehy-Skeffington & Thomsen, 2020), we expect the strongest effect of candidate and voter trait homophily to emerge for national identification (assessed at nation, state, and supra-national levels, with no prediction for which level would matter more), authoritarianism, and egalitarianism.

Methods

Design

This study employs a discrete choice experiment which, similarly to a conjoint experiment, simultaneously varies multiple candidate signals and includes a head-to-head vote choice. Participants are presented with a hypothetical ballot between two candidates with a list of three

statements from each candidate (see Figure 1). The appearance of statements is randomised and selected without replacement from a list of statements, each of which corresponds to the construct measurement of a social psychological attitude. Two or three versions of statements indexing high and low positioning on each attitudinal trait were included in the full list, to allow for the same construct and variation to be tested in ballot pairings. The randomisation accounts for any potential order effects of the statements.

In the main analysis, we pooled the different versions of the high/low treatments for each construct and estimated an average effect for the high and low treatments of each attitudinal trait. Those treatment terms were then interacted with the participants' score for the corresponding attitudinal trait. Each respondent had completed the relevant measurement battery as part of the British Election Study (BES) between five months and five and a half years prior to this survey experiment (see Fieldhouse et al., 2019). Including more than one version of the high/low treatments enabled us to confirm similar effects of different statements/treatments and also to compare interactions with past measurement of the attitudinal trait on the one hand, and with past measurement of the specific statement, on the other.

Procedure

The survey experiment was administered online via YouGov, under their standard incentive scheme. Participants, all based in Great Britain, were presented with five ballots, viewed consecutively. Each began with the following prompt: "Imagine at the next general election, the traditional parties do not have candidates standing in your local constituency. Instead, the race is between these two independent candidates. The table below shows statements that the candidates have made in writing or on social media before standing for elected office." Political party was omitted to enable observation of the full effect of each candidate signal in the absence of a partisan or ideological heuristic. Participants then read the list of candidate statements and were asked to indicate for which candidate they would vote (see Figure 1).

Figure 3: Sample ballot from the discrete choice experiment

YouGov

Imagine at the next general election, the traditional parties do not have candidates standing in your local constituency. Instead, the race is between two independent candidates.

The table below shows statements that the candidates have made in writing or on social media before standing for elected office.


Candidate A	Candidate B
Name: David Jones	Name: Michael Smith
Compromising is not selling out. It's a key part of politics.	I don't identify only with other English people.
Britain's best days are ahead of us.	Schools should not focus on teaching children to obey authority.
I have absolutely no trust in either our democracy or the members of Parliament.	People in Britain are too ready to criticise their country.

If you knew nothing else about either candidate, which candidate would you vote for?

Candidate A

Candidate B

Not Sure



Materials

Candidates A and B were presented with names, which were randomly generated from the most common UK first names and surnames for men and women born between 1950–1980.

Nine attitudinal traits were selected from those available in the BES:

- Political trust (in politicians and democratic institutions)
- National nostalgia
- Populist sentiment
- Nationalism
- Strength of identification with three different national identities: English, British, and European
- Authoritarianism
- Egalitarianism

Every ballot featured three statements for each candidate, with the language for the statements based on BES items and survey instruments designed to measure the relevant social psychological attitude:

Political trust was indexed with four statements, adjusted from an item used in the BES, e.g., “I have a lot of trust in our democracy and the members of our Parliament”.

National nostalgia was indexed with two statements using the same language as the BES, and two statements adopted in line with recent measures of national nostalgia (Smeekes, 2015), e.g., “In general, British society is not as good as it used to be.”

Populist sentiment was indexed with six statements taken from Akkerman, Muddle, and Zaslove’s 2014 measurement of populist sentiment, as used in the BES, e.g., “The people, and not politicians, should make our most important policy decisions”.

Nationalism was indexed using the same language as six items used in the BES survey (and relating to an established measure of ethnocentrism in the context of nationality – Bizumis et al., 2009), e.g., “I would rather be a citizen of Britain than of any other country in the world”.

Strength of national identification was indexed by four statements corresponding to the centrality of the identities of English, British, and European, based on the national identity measures in the BES, adapted in line with Leach et al. (2008). Example items are “I strongly identify as European” and “I don’t often think of myself as European” (reverse-coded).

Authoritarianism was indexed with four statements adapted from the BES, in turn based on Evans, Heath, and Lalljee’s 1996 measure of the libertarian-authoritarian scale and resembling similar measures of right-wing authoritarianism (Bizumic & Duckitt, 2018; Evans et al., 1996), e.g., “People who break the law should get stiffer sentences”.

Egalitarianism was indexed for candidates with four statements from the short version of the SDO₇ scale (Ho et al., 2015), e.g., “It is unjust to try to make all groups in society equal.” Egalitarianism was measured for participants with five statements from the BES capturing attitudes on equality and hierarchy, e.g. “Some people feel that government should make much greater efforts to make people’s income more equal. Other people feel that government should be much less concerned about how equal people’s incomes are. Where would you place yourself and the political parties on this scale?” with a 10-point scale (see Appendix 6).

When selecting the three statements presented for each candidate, we first selected six of the seven possible statement categories for the pair of candidates without replacement and distributed these across the two candidates. Thus, each candidate will have expressed statements associated with different social psychological attitudes than their opponent. Each statement for each category is randomly selected to be associated with the “high” or the “low” value of that attitude, and among the possible variations of the statement expressing that level, with equal probability.

Vote choice was measured by asking participants to select one of the two hypothetical candidates (Candidate A or B) for each ballot, or a “not sure” option, which was treated as a midway point between Candidates A and B. This vote choice is the dependent variable for all analyses.

Sample

Participants were drawn from a sample of past respondents to the British Election Study (BES) panel. The earliest BES responses used are from Wave 1 collected in February 2014, and the most recent responses are from Wave 15 collected in March 2019, five months before the survey experiment was conducted in August 2019. Where multiple measurements are available for a given respondent, we used the most recent measurement of the participant’s attitudinal trait.

1,656 British adults living in Great Britain (54.7% female, 8.7% in Scotland, 5.2% in Wales, and mean age of 52.1) were administered a survey involving presentation of five ballots, resulting in 8,280 ballot decisions or vote choices. Of the full sample, 1,065 respondents had completed all relevant items in previous waves of the BES, with the remaining 591 respondents having completed an average of 7.3 of 9 relevant attitudinal trait measurements.² Missing items were imputed using Stata’s MI package (StataCorp, 2017).

Results

We first created separate treatment variables for candidate statements corresponding to high and low levels of each attitudinal trait, coded -1 if a relevant statement appeared for Candidate B, 0 if a statement did not appear, and 1 if the statement appeared for Candidate A. Next, each treatment variable was interacted with the standardised measurement of the participant’s score

² Analysis of missingness is reported in Appendix 5.

for the corresponding attitudinal trait. The dependent variable, vote choice, was coded as 1 for Candidate B, 2 for “not sure”, and 3 for Candidate A with 64% of these decisions selecting either Candidate A or B, and 34% selecting “not sure”. We then fit an ordered logistic regression model including the treatment variables, the participants’ attitudinal variables, and the interactions between treatment terms and participants’ corresponding attitudinal traits. Our analysis focuses on the comparison of the coefficients for the interacted treatment terms (see Table 1 and Figure 2). The appendices include further details and alternative modelling approaches that illustrate the robustness of the core pattern of results we discuss immediately below (Table 4 in Appendix 2 contains the full set of coefficient estimates, Table 6 in Appendix 4 contains a linear regression version of the analysis, and Table 11 in Appendix 8 contains coefficients from a multinomial logistic regression).

Our analysis demonstrates strong and consistent differential treatment effects. Different participants’ reactions to candidates making the same statement vary in ways that reflect the participants’ relative scores for the relevant attitudinal trait as previously measured. Specifically, voters systematically prefer to select candidates who match them, and avoid selecting candidates who are opposite to them, on these social psychological attitudes.

As is clear from Table 1, some attitudinal traits were more influential than others. Signals of high European identification had the greatest differential effect on vote choice, such that respondents with high European identification were especially more likely to vote for candidates who expressed high European identification, and participants with low European identification were especially repelled by candidates making those same statements.

In addition to European identification, the two attitudinal traits indexing concerns for group-related hierarchy, authoritarianism and egalitarianism, when expressed in both high and low terms, had considerable differential effects on vote choice. English identification exerted a moderate differential influence on vote choice, especially high English identification statements. Trust in politicians and democratic institutions, nationalism, national nostalgia, and populist sentiment all influenced vote choice in the expected direction, albeit to a lesser degree than European identification, authoritarianism, egalitarianism, and English identification. The robustness of these results was checked by fitting a multinomial logistic regression, which confirmed the significance and magnitude of these results in all but a limited number of cases (for more details, see Appendix 8).

Table 1: Estimated effect of interactions between candidate statement treatment terms and participants' corresponding attitudinal trait measurement

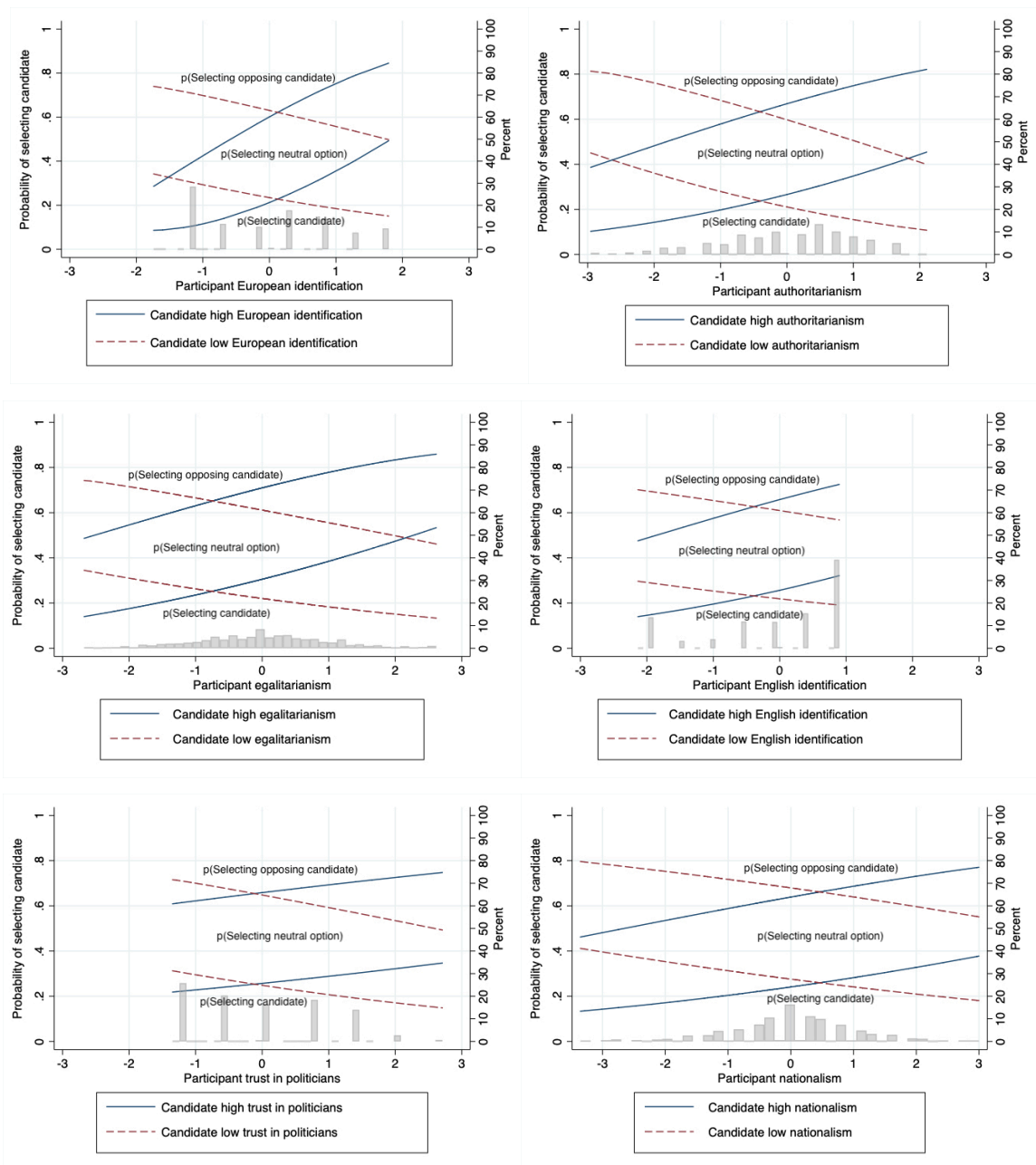
<i>Interacted treatment terms</i> <i>(treatment term interacted with measurement of participant attitudinal trait)</i>	<i>Statement variation</i>	<i>Coefficient estimate</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>Standard error</i>
<i>European identification</i>	High	0.72***	0.60	0.83	0.06
	Low	-0.30***	-0.41	-0.19	0.06
<i>Authoritarianism</i>	High	0.39***	0.32	0.45	0.03
	Low	-0.38***	-0.44	-0.31	0.03
<i>Egalitarianism</i>	High	0.23***	0.17	0.30	0.03
	Low	-0.36***	-0.42	-0.29	0.03
<i>English identification</i>	High	0.35***	0.24	0.46	0.06
	Low	-0.19***	-0.30	-0.08	0.05
<i>Trust in politicians</i>	High	0.16***	0.10	0.22	0.03
	Low	-0.24***	-0.30	-0.17	0.03
<i>Nationalism</i>	High	0.21***	0.15	0.28	0.03
	Low	-0.18***	-0.24	-0.12	0.03
<i>National nostalgia</i>	High	0.22***	0.16	0.29	0.03
	Low	-0.08**	-0.15	-0.02	0.03
<i>Populist sentiment</i>	High	0.14***	0.07	0.20	0.03
	Low	-0.17***	-0.24	-0.11	0.03
<i>British identification</i>	High	0.10	-0.01	0.20	0.05
	Low	-0.19**	-0.31	-0.08	0.06
<i>Gender/female</i>		-0.01	-0.08	0.05	0.03
<i>Intercept (B vs NS and A)</i>		-1.04	-1.18	-0.90	0.07
<i>Intercept (B and NS versus A)</i>		0.68	0.54	0.82	0.07
<i>Pseudo R²</i>		0.07			

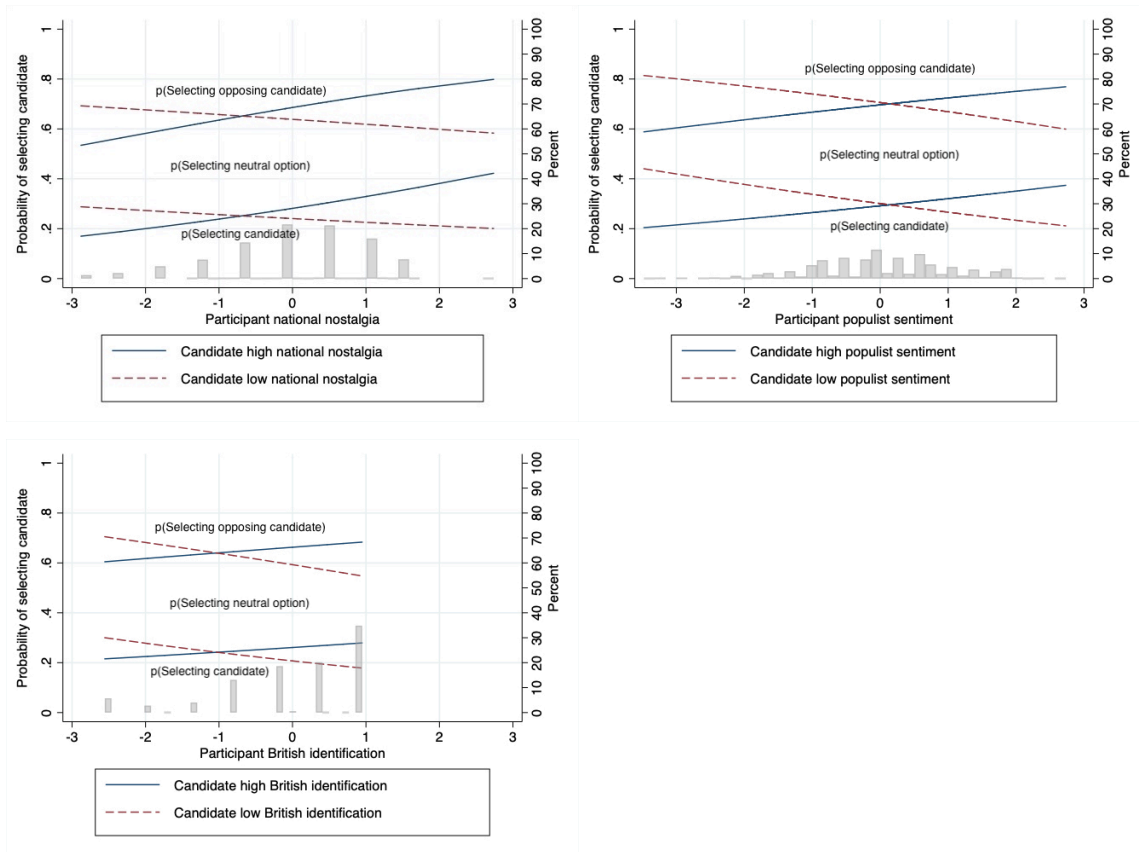
*** p<0.001 ** p<0.01 * p<0.05

The graphs in Figure 2 illustrate the probability of choosing Candidate A as a function of respondents' level of the corresponding attitudinal trait, illustrating the differential effects of candidate statement treatments. Each graph shows that as a given attitudinal trait increases, the probability of selecting candidates who make statements positively signalling that trait increases and the probability of selecting the opposing candidate decreases. For candidates who negatively

signal that trait, the probability of being selected declines as the corresponding attitudinal trait increases for the participant. These effects are substantively large, with the probability of selecting candidates providing a given signal varying by 10 to 30 percentage points across the range of participants previously measured attitudinal traits.

Figure 4: Differential effects of candidate statement treatments by participant attitudinal trait measurements. The left-hand y-axis marks the probability of choosing Candidate A (versus ‘Not sure’ or Candidate B), the x-axis denotes respondent positioning on each trait, with the right-hand y-axis marking the percentage of participants at each level of the trait.





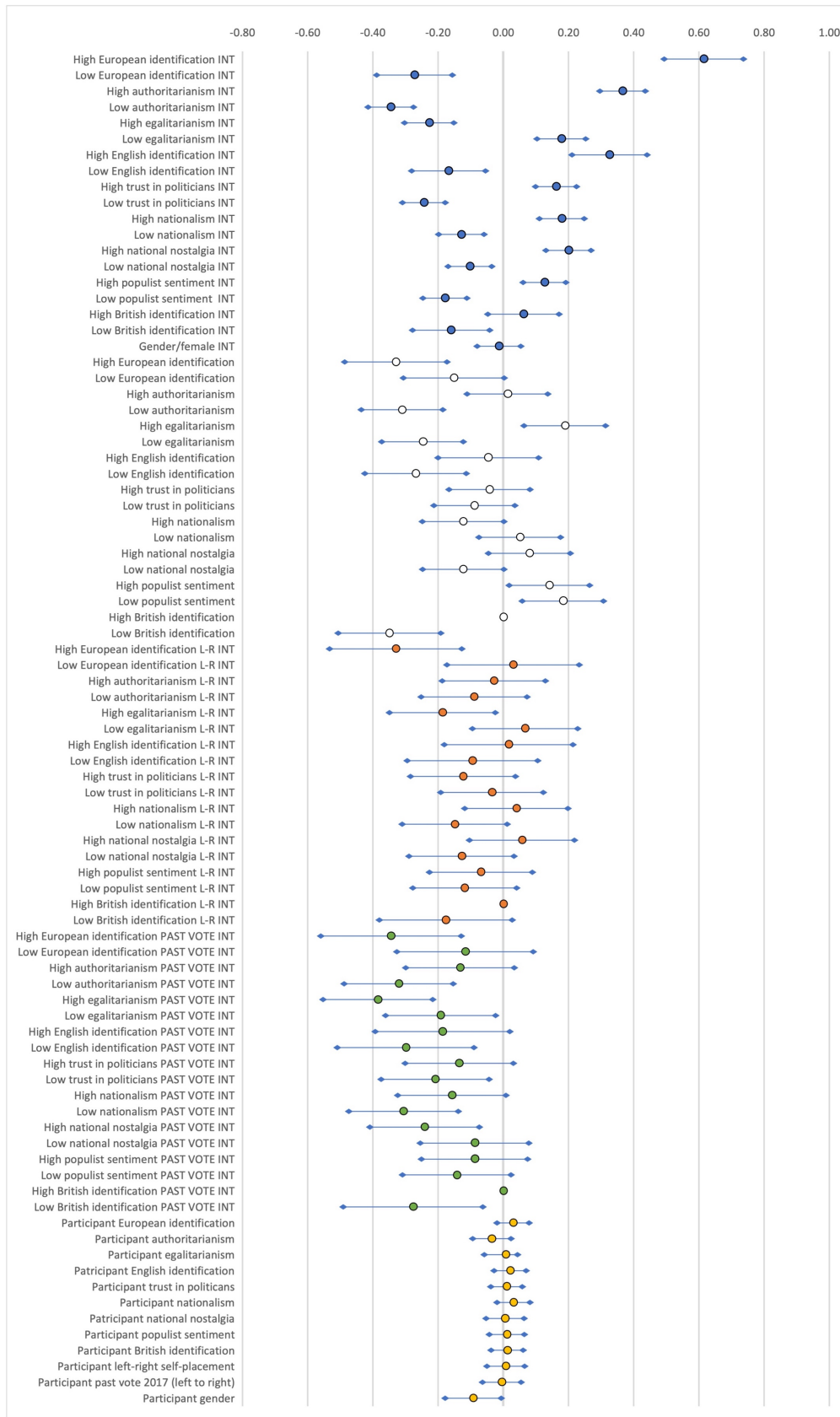
The only exception to the finding that attitudinal traits condition how the treatment statements affect vote choice pertained to high British identification, which has a small effect in the expected direction that falls short of being statistically significant. Statements of low British identification, on the other hand, elicit clearer differential reactions, which resemble the effects of the other attitudinal trait statements.

Finally, gender, as presented via candidate names, did not have an impact, indicating the absence of a homophily effect for the one demographic characteristic included in this study.

One important question concerns whether these results are a sign that these social psychological attitudes are measuring distinct aspects of individuals that condition how they respond to candidate states, or whether attitude signals simply act as a proxy for candidate ideology or partisanship. We extend the regression model to investigate if this is the case, by generating additional interactions of the treatment (candidate statement) indicators with both left-right self-placement and previous vote choice and add them to the ordered logistic regression model³.

³ High British treatment terms omitted because of collinearity.

Figure 5: Estimated effects of interactions of candidate statement treatment terms and participants' attitudinal trait measurement, un-interacted treatment terms, interactions of treatment terms and left-right self-placement, interaction of treatment terms and past vote



We find that interactions with participants' left-right ideology and past partisan vote in this model do not reveal the same differential effects (see Figure 3 and Appendix 3), and their addition does not substantially change the coefficients on the interactions of the treatments with the corresponding attitudinal traits from our previous analysis. Interactions of both left-right self-identification and partisan vote choice in the most recent national election preceding this experiment (the 2017 UK General Election) with the treatment terms are small and almost always nonsignificant (see Figure 3; table presented in Appendix 3).

Another concern is that these social psychological traits are overlapping and thus non-specific in their influence, as might be the case if they were acting as a proxy for general ideological leaning in a way that might be poorly captured by left-right self-positioning. To confirm that the variation in candidate selection is best explained by the interactions of attitudinal traits and candidate signals that correspond to them in a specific way, we compared the fit of a series of models. We used a single attitudinal trait to generate interactions with all treatment terms, creating a model that assumed that trait acted as a potential "general ideology" that explained all the interactions for all traits, and then fit an ordered logistic regression model with those interactions and the lower level terms. We repeated this process for each attitudinal trait measure as well as using participants' left-right self-placement and past vote. The AIC and Pseudo R^2 statistics for each model are reported in Table 2, which illustrates that the main model of our analysis (with interactions of corresponding attitudinal traits and signals) is the best fit by a substantial margin. These results indicate the attitudinal traits are measuring multiple distinct features of individuals and that each specifically predicts how participants respond to candidate signals related to that trait.

Table 2: Comparison of model fit

Model fit with	AIC	Pseudo R ²
Interactions with corresponding attitudinal traits	16979.26	0.07
Interactions with authoritarianism	17373.65	0.05
Interactions with European identification	17431.51	0.04
Interactions with left-right self-placement	17514.69	0.04
Interactions with past vote	17521.79	0.04
Interactions with national nostalgia	17532.10	0.04
Interactions with egalitarianism	17542.61	0.04
Interactions with nationalism	17606.80	0.03
Interactions with populist sentiment	17635.68	0.03
Interactions with English identification	17643.22	0.03
Interactions with British identification	17735.87	0.03
Interactions with trust in politicians	17774.22	0.03

Discussion and conclusion

This study employs a novel experimental design to examine the role of core social psychological attitudes driving homophily in voter evaluations of candidates. We provide causal evidence that social emotions, perceptions, and commitments shape how voters react to statements that clearly signal the related attitudes of candidates. Participants reacted differently to the same statements made by hypothetical political candidates on social media, and that difference was strongly predicted by participants' previously measured standing in terms of the attitudes those statements are designed to index. Specifically, participants were drawn toward candidates who appeared to match them on the attitudinal traits we measured and repelled by candidates who appeared to lie at the opposite end as them on the same traits. Underlying our research design is the recognition that we cannot randomise social psychological attitudes to participants, but only the attitudinal signals presented. Our analysis of differential effects does leave open the possibility that there are other underlying motivations which are themselves drivers of both these attitudinal traits and voting decisions. Nonetheless, by demonstrating that voters have differential reactions that are specifically predicted by relevant social psychological attitudes and not by left-right ideology or past partisan vote, we reveal how these widely applied social

psychological concepts index politically important multidimensional variation in how voters make decisions.

Indeed, this is the first evidence that voters exhibit homophily in core social psychological attitudes when choosing political candidates. Although voter homophily has been classically discussed in terms of detecting underlying values of politicians (Caprara & Zimbardo, 2004), it had only previously been demonstrated experimentally vis-à-vis demographics (Schwarz & Coppock, 2020; Wüest & Pontusson, 2020) and issue positions (Hanretty et al., 2020), and on a correlational basis in the case of personality (Aichholzer & Willman, 2020; Caprara et al., 2017). We did not observe demographic homophily here in terms of gender, but did observe strong, consistent patterns of homophily on traits that capture social emotions (trust, collective nostalgia), social perceptions (populist sentiment, nationalism), and particularly social commitments (national identification, authoritarianism, social dominance orientation). That such attitudinal traits were measured at least five months and in some cases as long as five years prior to this experiment speaks to their stability and over time predictive power vis-à-vis political behaviour. Such social attitudes are particularly potent to the extent that social media platforms enable political candidates to directly convey their personal values and concerns in a way that matters to voters, (see Ekman & Widholm, 2015; Hellweg, 2011) and even to (wittingly or unwittingly) reveal them through statements made on such platforms before their decision to run for office. Future work could consider whether voters' media usage, political knowledge, and interest further condition their response to such signals. Overall, we have clear, robust evidence that the ability of politicians to communicate directly with candidates in a personalised way can have a strong impact on attracting and repelling voters with particular social psychological profiles.

In addition to the overall importance of social psychological matching for voter choice, we also address a gap in the literature (see Dennison et al., 2020) by identifying which attitudes matter the most. Although almost all attitudinal traits studied conditioned how participants responded to treatments, these interaction effects were considerable for European identification, authoritarianism, and egalitarianism and to a lesser degree, English identification. We interpret these findings as evidence that voters prefer leaders who share their commitments to social groups and to principles for distributing power and resources within and between such groups.

First, in choosing political candidates, individuals are drawn toward those who share their level of identification with national and supranational groups, suggestive that affiliation to such social identities, though symbolic and without apparent material consequence, is in fact meaningful to voters. This is consistent with mounting evidence for the influence of social identities on political behaviour (e.g., Fowler, & Kam, 2007; Huddy, 2001; West & Iyengar, 2020), and also with arguments that such influence is underpinned by the operation of an evolved ‘coalitional psychology’ in the political domain (see Pietraszewski et al., 2015). Both evolutionary and social identity perspectives (see Tajfel & Turner, 1979) predict that the potency of particular social identity markers should vary with political and historical context, which may shed light on why high European identification has such a strong effect in this study, taking place as it did among British voters at the height of conflict between ‘Leaver’ and ‘Remainer’ voter identities (see Hobolt et al., 2020) as the UK was months away from leaving the European Union. The sub-national identities within the UK, and their contemporary association with nativist attitudes (Ford & Sobolewska, 2018), provide a unique context for English identification to carry particular meaning for voters, while signals of high British identification did not activate salient coalitional identity for British voters at the time of the study. Drawing on theorising of voting as adaptive followership, future studies could more systematically examine the extent to which shifting political and historical circumstances, and perceptions thereof, moderate the importance of national versus other identities over time and across contexts (see Laustsen, 2021).

Commitments concerning social groups are not only a matter of affiliation; they also involve endorsement of particular principles for distributing power and resources within and between groups. The substantial effects of both authoritarianism and egalitarianism in our study provide the strongest evidence yet of the influence of such principles in the selection of political leaders. In line with the predictive power of authoritarian attitudes for voter decisions as assessed in a range of eras and contexts (e.g., Cizmar et al., 2014; Van Assche et al., 2019), our observation of a strong influence of (high and low) authoritarianism implies that voters seek out candidates who might enact their preferred approach to leadership and adherence to traditional norms at the cost of severe punishment, i.e., to navigating intragroup hierarchy in the face of challenges of group coordination.

Looking beyond one’s own social group, another key dilemma concerns how different groups in society should relate to each other. Consistent with evidence for the strong predictive power of social dominance orientation (SDO) for voting behaviour, (e.g. Van Assche, et al., 2019; see also

Sidanius et al., 2016), and theorising of SDO as a core adaptive strategy mobilised in political decision-making (see Kleppesto et al., 2020; Sheehy-Skeffington & Thomsen, 2020; Sidanius & Pratto, 1999), we found that individual preferences for equality versus inequality between groups strongly determined how voters reacted to statements from candidates signalling such preferences⁴.

These findings raise questions for influential theoretical approaches that could be explored in future research. The overall salience of social psychological attitudes underlines the importance of looking at candidate social values in an era of political communication that may be more personalised than ever before (Weinberg, 2020). Yet personal beliefs and traits are not devoid of political content, such that voting for a candidate with matching traits may indicate more than similarity as a route toward liking (see Aichholzer & Willman, 2020). Indeed, it may be that the reason voters are drawn toward political candidates who seem similar to them on personality traits is that such candidates are assumed also to share their core social values (see Aichholzer & Willman, 2020; Carprara & Zimbardo, 2004; Weinberg, 2020). This implies that the distinction between ‘expressive’ and instrumental voting (see Huddy et al., 2015) is somewhat blurred, as voting becomes an arena for the instrumental enactment of core social commitments that are seemingly expressive in nature (see Sheehy-Skeffington & Thomsen, 2020; Obradovic et al., 2020; Weinberg, 2020). Given how it plays out most strongly for ingroup identification, authoritarianism, and egalitarianism, we think it likely that a core part of voter homophily is driven by the motivation to select leaders who share a similar level of commitment to one’s national group and ways of coordinating group-based resource dilemmas pertaining to it. Such a pattern had previously been suggested by correlational evidence that right-wing authoritarianism (RWA) and SDO mediate the link between self-rated personality and personality ratings of one’s ideal politician (Aichholzer & Willman, 2020), but is demonstrated here in a causal manner for the first time.

These findings are in line with accounts of the underpinnings of ideology centred on RWA and SDO (Duckitt, 2001; Duckitt & Sibley, 2010b), and demonstrate that once one assesses such preferences directly (as opposed to indirectly, through personality or values – see Weinberg,

⁴ We note that although we consider SDO and egalitarianism as equivalent, the BES items used in measurement of participant egalitarianism were significantly different to the items from the SDO scale used to signal candidate egalitarianism. To conduct a more precise test of the role of SDO specifically, we reanalysed the data from a subset of our sample who completed Wave 15 of the BES ($n = 238$), which included items taken from the SDO scale. This broadly replicated our results, yielding an overall interaction between participant and candidate SDO, plus a specific interaction involving candidate profiles signalling low SDO (for analysis details, see Appendix 6).

2020), their influence is striking. Future research should assess whether SDO and RWA are best understood as ideological manifestations of personality traits (Duckitt, 2001), or may exhibit an influence on politics that goes beyond them (Kleppestø, et al., 2019). The dual process model and related accounts of ideology (see, e.g., Jost et al., 2009) also raise the question of whether the statements associated with the candidates in our study influenced vote choice only by acting as heuristics for left-right ideology or partisanship. Challenging this possibility, we did not find differential effects when we interacted our candidate statement treatment terms with left-right self-placement, and, separately, with past vote. This suggests that voters are not appraising candidates' social attitudes merely as a way of detecting their partisanship. Indeed, subsequent studies suggest that even when a candidate's partisan affiliation is explicit, its influence in shaping perceptions of that candidate is not stronger than that of national identification, authoritarianism, and egalitarianism (Baron, et al., 2022b). Nevertheless, given the uncertain external validity of discrete choice experiments, future research would do well to explore the relative influence of candidate attitudes when signalled amidst the noisy reality of real-world elections, involving signals of other candidate attributes such as party and appearance.

Finally, future work might address how the hierarchy-relevant group commitments we highlight here relate to and interact with traits measured by accounts of voter behaviour based on the notion of an evolved coalitional psychology (see Tooby & Cosmides, 2010). Applications of adaptive followership theory to candidate evaluations suggest that RWA and SDO matter primarily through shaping perceptions of intergroup conflict, which in turn should be associated with preference for more dominant leaders (see Laustsen, 2021; Laustsen & Petersen, 2017). Future research could test whether the influence of voter-assessed RWA and SDO on candidate evaluations is accounted for by ratings of candidate dominance or voter preferences for dominance (and other leadership traits) in candidates, even taking into account signals of a candidate's levels of RWA and SDO. Indeed, to the extent that physical cues of candidates matter because of lack of direct familiarity with the personalities of politicians in large-scale societies (Laustsen & Petersen, 2017), in cases where social media enables such direct familiarity, the influence of such surface-level traits may give way to the influence of core commitments concerning intra- and intergroup hierarchy (see Sheehy-Skeffington & Thomsen, 2020). Relatedly, the idea of politics as a site of enactment of one's preferred means of solving problems of group coordination implies that homophily based on group commitments may play out just as strongly for the signalling of the values of party platforms as for the signalling of the values of political candidates, a possibility future research could test.

Although they had a smaller impact than the core group commitments of national identification, authoritarianism, and egalitarianism, other social attitudes that we measured also influenced the selection of candidates in our study, possibly due to their links to group commitments and related notions of hierarchy. The role of nationalism is consistent with the importance of strength of in-group feeling, though nationalism adds to it a sense of the superiority of one's own group and the inferiority of others (see Bizumic & Duckitt, 2012). The influence of populist sentiment suggests the potency of one particular intergroup distinction, between 'the people' and 'the elites' or establishment, which is centred on the perception of an unjust hierarchy between them (see Mudde, 2004; Obradovic et al., 2020). Recent manifestations of populism in the UK and US have often been intertwined with national nostalgia, which often involves a perceived loss of social cohesion within groups and social status between groups (see Smeekes, 2015; Obradovic & Baron, in-progress). As self-reported levels of trust are hard to interpret (Newton et al., 2018), future research would do well to probe the meaning of political trust to voters, and whether it might in fact contain echoes of intergroup dynamics such as hostility toward the establishment or toward perceived out-group members (see Delhey et al., 2011).

Overall, our findings provide the first evidence of voter homophily along the lines of social emotions, social perceptions, and social commitments, all constructs that vary widely within the population and are stable over time. By sidestepping particular policy positions and the issues that predominate a single election cycle, voters can use candidate attitudinal signalling to understand the social psychological mindset of their potential leaders, in an apparent search for one that resonates with their own. Signals of group commitments, in particular, reveal the kind of society a candidate wishes to bring about, and their allegiance to it, thus striking at the core set of concerns that arguably mobilise political participation in the first place.

Appendices

Appendix 1: Attributes varied in survey experiment

Table 3: Attributes varied in survey experiment

	<i>Variation</i>	<i>Sample text</i>
<i>Gender</i>	Female	Susan, Linda, Christine, Margaret, Janet, Sarah, Claire, Nicola, Emma, Lisa
	Male	David, John, Steven, Michael, Peter, Paul, Mark, Andrew, Richard, Joseph Randomly paired with a surname: Smith, Jones, Williams, Brown, Taylor, Johnson, Lee
<i>National identifications</i>	Variation	Sample text
	High English	“Being English is a central part of who I am.”
	English	“I often think of myself as English.”
	High British	“I am first and foremost British.”
	British	“Being British is very important to me.”
	High European	“I strongly identify as European.”
	European	“I identify strongly with other Europeans.”
	Low English	“I don’t think of myself as just English.”
	English	“I don’t identify with other English people.”
	Low British	“Being British isn’t the most important part of my identity.” “I rarely think of myself as British.”
Low European	“I don’t think of myself as European.” “Being European is not important to who I am.”	
<i>Nationalism</i>	High	“I would rather be a citizen of Britain than of any other country in the world.” “The world would be a better place if people from other countries were more like the British.” “People in Britain are too ready to criticise their country.”
	Low	“Britain has a lot to learn from other countries in running its affairs.” “There are some things about Britain today that make me ashamed to be British.” “I am often less proud of Britain than I would like to be.”
<i>Trust in politicians</i>	High	“I have a lot of trust in our democracy and the members of our Parliament.” “I believe in our systems of democracy and government.”
	Low	“I have absolutely no trust in either our democracy or the members of Parliament.” “I don’t trust our democratic and governmental systems.”

<i>Nationalistic nostalgia</i>	High	<p>“Young people today don’t have enough respect for traditional British values.”</p> <p>“In general, British society is not as good as it used to be.”</p>
	Low	<p>“Things in Britain were not better in the past.”</p> <p>“Britain’s best days are ahead of us.”</p>
<i>Populist sentiment</i>	High	<p>“The people, and not politicians, should make our most important policy decisions.”</p> <p>“The politicians in the UK Parliament need to follow the will of the people.”</p> <p>“I would rather be represented by a citizen than by a specialized politician.”</p>
	Low	<p>“We need people with experience and expertise in Parliament, not just anyone.”</p> <p>“Politicians must take difficult decisions for the rest of the country.”</p> <p>“Compromising is not selling out. It’s a key part of politics.”</p>
<i>Authoritarianism</i>	High	<p>“Censorship of films and magazines is necessary to uphold moral standards.”</p> <p>“People who break the law should get stiffer sentences.”</p>
	Low	<p>“Schools should not focus on teaching children to obey authority.”</p> <p>“There are no crimes for which the death penalty is an appropriate sentence”</p>
<i>Egalitarianism</i>	High	<p>“We should work to give all groups in society an equal chance to succeed.”</p> <p>“We should do what we can to equalise conditions for different social groups.”</p>
	Low	<p>“It is unjust to try to make all groups in society equal.”</p> <p>“Equality of all social groups should not be our primary goal.”</p>

Appendix 2: Table and figure of ordered logistic regression model with attitudinal trait interactions and un-interacted treatment terms

Table 4: Ordered logistic regression model with attitudinal trait interactions and un-interacted treatment terms

	Variation	Coefficient	Lower CI	Upper CI	Std Error	
Treatment term interacted with attitudinal trait	European identification	High	0.72***	0.60	0.83	0.06
		Low	-0.30***	-0.41	-0.19	0.06
	Authoritarianism	High	0.39***	0.32	0.45	0.03
		Low	-0.38***	-0.44	-0.31	0.03
	Social dominance orientation	High	0.23***	0.17	0.30	0.03
		Low	-0.36***	-0.42	-0.29	0.03
	English identification	High	0.35***	0.24	0.46	0.06
		Low	-0.19***	-0.30	-0.08	0.05
	Trust in politicians	High	0.16***	0.10	0.22	0.03
		Low	-0.24***	-0.30	-0.17	0.03
	Nationalism	High	0.21***	0.15	0.28	0.03
		Low	-0.18***	-0.24	-0.12	0.03
	National nostalgia	High	0.22***	0.16	0.29	0.03
		Low	-0.08**	-0.15	-0.02	0.03
	Populist sentiment	High	0.14***	0.07	0.20	0.03
		Low	-0.17***	-0.24	-0.11	0.03
	British identification	High	0.10	-0.01	0.20	0.05
		Low	-0.19**	-0.31	-0.08	0.06
	Gender/female		-0.01	-0.08	0.05	0.03
	Un-interacted treatment term	European identification	High	-0.27**	-0.43	-0.12
		Low	-0.14	-0.29	0.01	0.08
Authoritarianism		High	0.03	-0.10	0.15	0.06
		Low	-0.28***	-0.40	-0.16	0.06
Social dominance orientation		High	-0.22***	-0.35	-0.10	0.06
		Low	0.22**	0.09	0.34	0.06
English identification		High	-0.02	-0.18	0.13	0.08
		Low	-0.23**	-0.39	-0.08	0.08
Trust in politicians		High	-0.02	-0.14	0.10	0.06
		Low	-0.07	-0.19	0.06	0.06
Nationalism		High	-0.11	-0.23	0.02	0.06
		Low	0.08	-0.05	0.20	0.06
National nostalgia		High	0.10	-0.02	0.23	0.06
		Low	-0.11	-0.23	0.02	0.06
Populist sentiment		High	0.15*	0.03	0.28	0.06
		Low	0.20**	0.07	0.32	0.06
British identification		High	0.00			
		Low	-0.30*	-0.46	-0.15	0.08

Participant gender	-0.10	-0.18	-0.01	0.04
Participant European identification	0.03	-0.02	0.08	0.02
Participant authoritarianism	-0.03	-0.09	0.03	0.03
Participant SDO	-0.01	-0.06	0.04	0.02
Participant English identification	0.02	-0.03	0.07	0.02
Participant trust in politicians	0.01	-0.04	0.06	0.02
Participant nationalism	0.04	-0.01	0.09	0.03
Participant national nostalgia	0.00	-0.05	0.06	0.03
Participant populist sentiment	0.01	-0.05	0.06	0.03
Participant British identification	0.01	-0.04	0.06	0.02
Cut 1	-1.04			0.07
Cut 2	0.68			0.07

*** p<0.001 ** p<0.01 * p<0.05

Appendix 3: Table and figure of ordered logistic regression model with all interactions and lower order terms, including left-right ideology interactions and partisan interactions

High British identification interactions have been omitted because of collinearity, with the exception of the attitudinal trait interaction (which is not collinear).

Table 5: Ordered logistic regression model with all interactions and lower order terms, including left-right ideology interactions and partisan interactions, corresponds to Figure 3

			Coef.	Lower CI	Upper CI	Std Err.	z	P-value
Interacted treatment terms	European identification	High	0.62***	0.49	0.74	0.06	9.89	0.000
		Low	-0.27***	-0.39	-0.16	0.06	-4.6	0.000
	Authoritarianism	High	0.37***	0.30	0.44	0.04	10.33	0.000
		Low	-0.35***	-0.41	-0.28	0.04	-9.72	0.000
	SDO	High	0.18***	0.10	0.25	0.04	4.71	0.000
		Low	-0.23***	-0.30	-0.15	0.04	-5.9	0.000
	English identification	High	0.33***	0.21	0.44	0.06	5.55	0.000
		Low	-0.17**	-0.28	-0.05	0.06	-2.91	0.004
	Trust in politicians	High	0.16***	0.10	0.22	0.03	5.05	0.000
		Low	-0.24***	-0.31	-0.18	0.03	-7.31	0.000
	Nationalism	High	0.18***	0.11	0.25	0.03	5.14	0.000
		Low	-0.13***	-0.20	-0.06	0.04	-3.61	0.000
	Nationalistic nostalgia	High	0.20***	0.13	0.27	0.04	5.65	0.000
		Low	-0.10**	-0.17	-0.04	0.03	-2.99	0.003
	Populist sentiment	High	0.13***	0.06	0.19	0.03	3.81	0.000
		Low	-0.18***	-0.25	-0.11	0.03	-5.25	0.000
	British identification	High	0.06	-0.05	0.17	0.06	1.11	0.266
		Low	-0.16**	-0.28	-0.04	0.06	-2.66	0.008
	Gender (female)		-0.01	-0.08	0.05	0.03	-0.38	0.702
	(Un-interacted) Treatment terms	European identification	High	-0.33***	-0.49	-0.17	0.08	-4.12
Low			-0.15	-0.31	0.00	0.08	-1.92	0.055
Authoritarianism		High	0.01	-0.11	0.14	0.06	0.2	0.841
		Low	-0.31***	-0.44	-0.18	0.06	-4.85	0.000
SDO		High	-0.25***	-0.37	-0.12	0.06	-3.88	0.000
		Low	0.19**	0.06	0.31	0.06	2.97	0.003
English identification		High	-0.05	-0.20	0.11	0.08	-0.58	0.561
		Low	-0.27**	-0.42	-0.11	0.08	-3.4	0.001
Trust in politicians		High	-0.04	-0.17	0.08	0.06	-0.67	0.504
		Low	-0.09	-0.21	0.04	0.06	-1.4	0.161

Treatment terms interacted with left-right self-placement

Nationalism	High	-0.12	-0.25	0.00	0.06	-1.94	0.053
	Low	0.05	-0.07	0.18	0.06	0.8	0.425
Nationalistic nostalgia	High	0.08	-0.05	0.21	0.06	1.25	0.211
	Low	-0.12	-0.25	0.00	0.06	-1.93	0.053
Populist sentiment	High	0.14*	0.02	0.26	0.06	2.24	0.025
	Low	0.18**	0.06	0.31	0.06	2.88	0.004
British identification	High	0.00					
	Low	-0.35***	-0.51	-0.19	0.08	-4.35	0.000
European identification	High	-0.33**	-0.53	-0.13	0.10	-3.19	0.001
	Low	0.03	-0.17	0.23	0.10	0.29	0.771
Authoritarianism	High	-0.03	-0.19	0.13	0.08	-0.36	0.720
	Low	-0.09	-0.25	0.07	0.08	-1.08	0.279
SDO	High	0.07	-0.09	0.23	0.08	0.81	0.417
	Low	-0.19*	-0.35	-0.02	0.08	-2.26	0.024
English identification	High	0.02	-0.18	0.21	0.10	0.16	0.870
	Low	-0.09	-0.29	0.11	0.10	-0.93	0.354
Trust in politicians	High	-0.12	-0.28	0.04	0.08	-1.5	0.134
	Low	-0.03	-0.19	0.12	0.08	-0.43	0.667
Nationalism	High	0.04	-0.12	0.20	0.08	0.5	0.616
	Low	-0.15	-0.31	0.01	0.08	-1.81	0.070
Nationalistic nostalgia	High	0.06	-0.10	0.22	0.08	0.7	0.485
	Low	-0.13	-0.29	0.03	0.08	-1.57	0.118
Populist sentiment	High	-0.07	-0.23	0.09	0.08	-0.85	0.394
	Low	-0.12	-0.28	0.04	0.08	-1.46	0.145
British identification	High	0.00					
	Low	-0.18	-0.38	0.03	0.10	-1.7	0.089
European identification	High	-0.34**	-0.56	-0.13	0.11	-3.14	0.002
	Low	-0.12	-0.33	0.09	0.11	-1.1	0.272
Authoritarianism	High	-0.13	-0.30	0.03	0.08	-1.56	0.119
	Low	-0.32***	-0.49	-0.15	0.09	-3.76	0.000
SDO	High	-0.19*	-0.36	-0.02	0.09	-2.23	0.026
	Low	-0.38***	-0.55	-0.22	0.09	-4.49	0.000
English identification	High	-0.19	-0.39	0.02	0.11	-1.77	0.076
	Low	-0.30**	-0.51	-0.09	0.11	-2.8	0.005
Trust in politicians	High	-0.13	-0.30	0.03	0.08	-1.59	0.111
	Low	-0.21*	-0.37	-0.04	0.08	-2.48	0.013
Nationalism	High	-0.16	-0.32	0.01	0.08	-1.86	0.063
	Low	-0.31***	-0.47	-0.14	0.09	-3.57	0.000
Nationalistic nostalgia	High	-0.24**	-0.41	-0.07	0.09	-2.81	0.005
	Low	-0.09	-0.25	0.08	0.08	-1.04	0.300
Populist sentiment	High	-0.09	-0.25	0.07	0.08	-1.06	0.288
	Low	-0.14	-0.31	0.02	0.08	-1.68	0.092
British identification	High	0.00					

Treatment terms interacted with past vote

	Low	-0.28*	-0.49	-0.06	0.11	-2.53	0.011
Variables used in interactions	Participant European identification	0.03	-0.02	0.08	0.02	1.2	0.231
	Participant authoritarianism	-0.04	-0.09	0.02	0.03	-1.18	0.238
	Participant SDO	-0.01	-0.06	0.04	0.03	-0.28	0.780
	Participant English identification	0.02	-0.03	0.07	0.03	0.84	0.403
	Participant trust in politicians	0.01	-0.04	0.06	0.02	0.42	0.676
	Participant nationalism	0.03	-0.02	0.08	0.03	1.21	0.227
	Participant national nostalgia	0.01	-0.05	0.06	0.03	0.19	0.852
	Participant populist sentiment	0.01	-0.04	0.06	0.03	0.4	0.690
	Participant British identification	0.01	-0.04	0.06	0.03	0.47	0.640
	Participant left-right self-placement	0.01	-0.05	0.07	0.03	0.26	0.792
	Participant past vote 2017 (left to right parties)	0.00	-0.06	0.05	0.03	-0.15	0.881
	Participant gender	-0.09*	-0.18	-0.01	0.04	-2.1	0.036
	Cut 1	-1.04	-1.18	-0.90	0.07		
	Cut 2	0.71	0.57	0.85	0.07		

*** p<0.001 ** p<0.01 * p<0.05

Appendix 4: Table and figure of linear regression model with all interactions and lower order terms, including left-right ideology interactions and partisan interactions

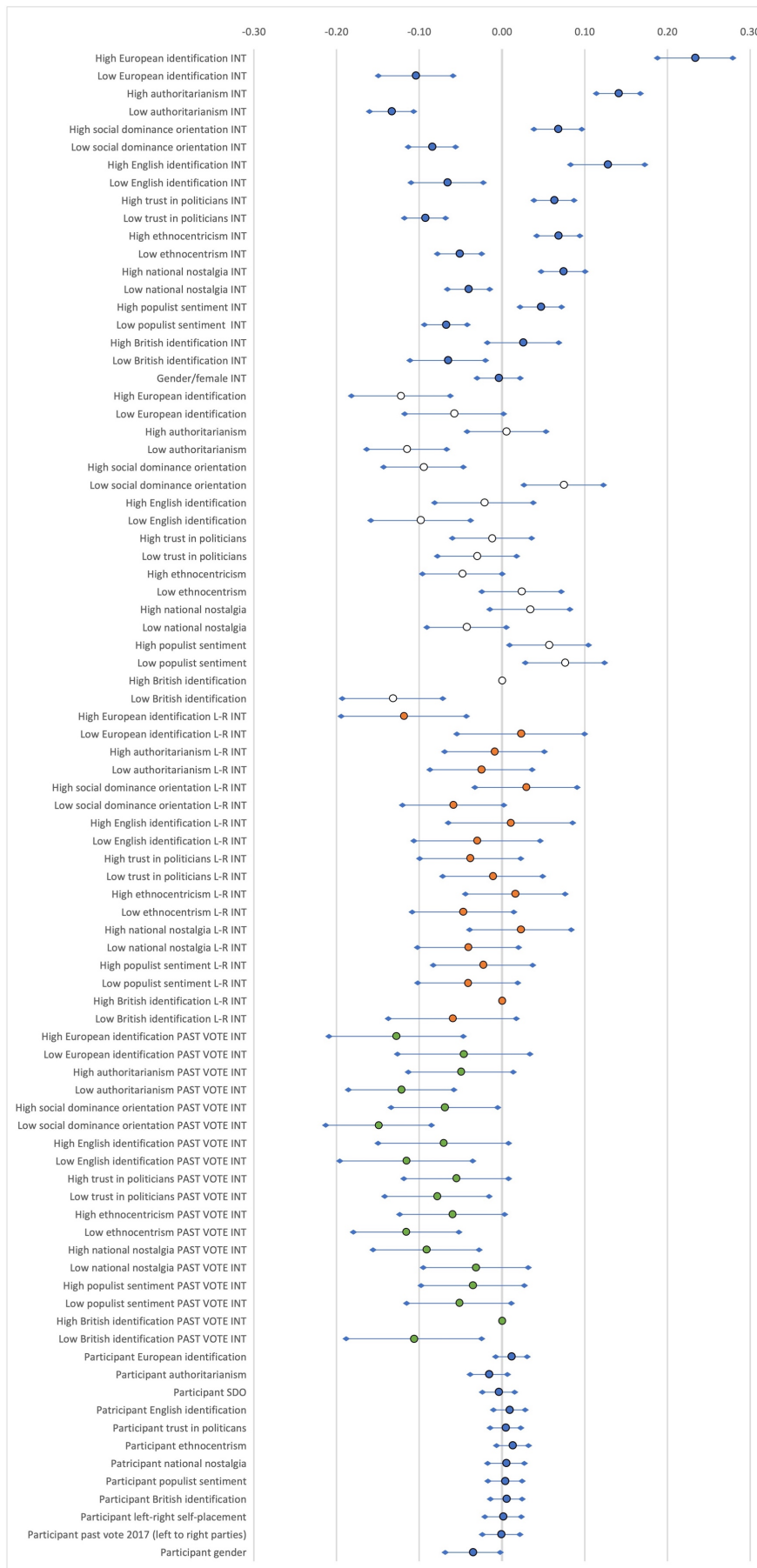
Table 6: Linear regression model with all interactions and lower order terms, including left-right ideology interactions and partisan interactions

			Coef.	Lower CI	Upper CI	Std Err.	z	P-value
Interacted treatment terms	European identification	High	0.23***	0.19	0.28	0.02	10.07	0.000
		Low	-0.10***	-0.15	-0.06	0.02	-4.53	0.000
	Authoritarianism	High	0.14***	0.11	0.17	0.01	10.43	0.000
		Low	-0.13***	-0.16	-0.11	0.01	-9.81	0.000
	SDO	High	0.07***	0.04	0.10	0.01	4.60	0.000
		Low	-0.08***	-0.11	-0.06	0.01	-5.84	0.000
	English identification	High	0.13***	0.08	0.17	0.02	5.60	0.000
		Low	-0.07**	-0.11	-0.02	0.02	-2.98	0.003
	Trust in politicians	High	0.06***	0.04	0.09	0.01	5.11	0.000
		Low	-0.09***	-0.12	-0.07	0.01	-7.33	0.000
	Nationalism	High	0.07***	0.04	0.09	0.01	5.12	0.000
		Low	-0.05***	-0.08	-0.02	0.01	-3.77	0.000
	Nationalistic nostalgia	High	0.07***	0.05	0.10	0.01	5.48	0.000
		Low	-0.04**	-0.07	-0.02	0.01	-3.12	0.002
	Populist sentiment	High	0.05***	0.02	0.07	0.01	3.68	0.000
		Low	-0.07***	-0.09	-0.04	0.01	-5.19	0.000
	British identification	High	0.03	-0.02	0.07	0.02	1.16	0.247
		Low	-0.07**	-0.11	-0.02	0.02	-2.81	0.005
	Gender (female)		0.00	-0.03	0.02	0.01	-0.30	0.764
	(Un-interacted) Treatment terms	European identification	High	-0.12***	-0.18	-0.06	0.03	-4.02
Low			-0.06	-0.12	0.00	0.03	-1.90	0.057
Authoritarianism		High	0.01	-0.04	0.05	0.02	0.22	0.824
		Low	-0.12***	-0.16	-0.07	0.02	-4.69	0.000
SDO		High	-0.09***	-0.14	-0.05	0.02	-3.87	0.000
		Low	0.07**	0.03	0.12	0.02	3.05	0.002
English identification		High	-0.02	-0.08	0.04	0.03	-0.72	0.474
		Low	-0.10**	-0.16	-0.04	0.03	-3.21	0.001
Trust in politicians		High	-0.01	-0.06	0.04	0.02	-0.50	0.618
		Low	-0.03	-0.08	0.02	0.02	-1.24	0.215
Nationalism		High	-0.05	-0.10	0.00	0.02	-1.96	0.050
		Low	0.02	-0.02	0.07	0.02	0.96	0.335
Nationalistic nostalgia		High	0.03	-0.01	0.08	0.02	1.37	0.171
		Low	-0.04	-0.09	0.01	0.02	-1.75	0.081

Treatment terms interacted with left-right self-placement	Populist sentiment	High	0.06*	0.01	0.10	0.02	2.34	0.019	
		Low	0.08**	0.03	0.12	0.02	3.12	0.002	
	British identification	High	0.00						
		Low	-0.13***	-0.19	-0.07	0.03	-4.27	0.000	
	European identification	High	-0.12**	-0.19	-0.04	0.04	-3.08	0.002	
		Low	0.02	-0.05	0.10	0.04	0.58	0.564	
	Authoritarianism	High	-0.01	-0.07	0.05	0.03	-0.30	0.765	
		Low	-0.03	-0.09	0.04	0.03	-0.81	0.419	
	SDO	High	0.03	-0.03	0.09	0.03	0.92	0.356	
		Low	-0.06	-0.12	0.00	0.03	-1.89	0.059	
	English identification	High	0.01	-0.06	0.09	0.04	0.27	0.788	
		Low	-0.03	-0.11	0.05	0.04	-0.78	0.437	
	Trust in politicians	High	-0.04	-0.10	0.02	0.03	-1.24	0.216	
		Low	-0.01	-0.07	0.05	0.03	-0.37	0.715	
	Nationalism	High	0.02	-0.04	0.08	0.03	0.52	0.603	
		Low	-0.05	-0.11	0.01	0.03	-1.51	0.132	
	Nationalistic nostalgia	High	0.02	-0.04	0.08	0.03	0.71	0.477	
		Low	-0.04	-0.10	0.02	0.03	-1.32	0.188	
	Populist sentiment	High	-0.02	-0.08	0.04	0.03	-0.75	0.453	
		Low	-0.04	-0.10	0.02	0.03	-1.35	0.178	
British identification	High	0.00							
	Low	-0.06	-0.14	0.02	0.04	-1.52	0.128		
European identification	High	-0.13**	-0.21	-0.05	0.04	-3.09	0.002		
	Low	-0.05	-0.13	0.03	0.04	-1.13	0.258		
Authoritarianism	High	-0.05	-0.11	0.01	0.03	-1.54	0.123		
	Low	-0.12***	-0.19	-0.06	0.03	-3.75	0.000		
SDO	High	-0.07*	-0.13	-0.01	0.03	-2.12	0.034		
	Low	-0.15***	-0.21	-0.09	0.03	-4.58	0.000		
English identification	High	-0.07	-0.15	0.01	0.04	-1.76	0.078		
	Low	-0.12**	-0.20	-0.04	0.04	-2.83	0.005		
Trust in politicians	High	-0.06	-0.12	0.01	0.03	-1.72	0.086		
	Low	-0.08*	-0.14	-0.02	0.03	-2.44	0.015		
Nationalism	High	-0.06	-0.12	0.00	0.03	-1.86	0.063		
	Low	-0.12***	-0.18	-0.05	0.03	-3.57	0.000		
Nationalistic nostalgia	High	-0.09**	-0.16	-0.03	0.03	-2.80	0.005		
	Low	-0.03	-0.10	0.03	0.03	-0.98	0.327		
Populist sentiment	High	-0.04	-0.10	0.03	0.03	-1.11	0.267		
	Low	-0.05	-0.12	0.01	0.03	-1.61	0.107		
British identification	High	0.00							
	Low	-0.11*	-0.19	-0.02	0.04	-2.55	0.011		
Variables used in	Participant European identification		0.01	-0.01	0.03	0.01	1.18	0.236	
	Participant authoritarianism		-0.02	-0.04	0.01	0.01	-1.39	0.163	
	Participant SDO		0.00	-0.02	0.02	0.01	-0.42	0.672	

Participant English identification	0.01	-0.01	0.03	0.01	0.91	0.363
Participant trust in politicians	0.00	-0.01	0.02	0.01	0.44	0.658
Participant nationalism	0.01	-0.01	0.03	0.01	1.29	0.197
Participant national nostalgia	0.00	-0.02	0.03	0.01	0.42	0.672
Participant populist sentiment	0.00	-0.02	0.02	0.01	0.35	0.727
Participant British identification	0.01	-0.01	0.02	0.01	0.54	0.586
Participant left-right self-placement	0.00	-0.02	0.02	0.01	0.13	0.900
Participant past vote 2017 (left to right parties)	0.00	-0.02	0.02	0.01	-0.09	0.932
Participant gender	-0.04*	-0.07	0.00	0.02	-2.09	0.036
Constant	2.06***	2.01	2.12	0.03	75.98	0.000
R ²	0.08					

Figure 6: Linear regression model with all interactions and lower order terms, including left-right ideology interactions and partisan interactions



Appendix 5: Missingness of measurements for attitudinal traits

Not all participants in this study completed the necessary survey items in previous waves of the BES. Missingness is reported here. Response rate to the items for populist sentiment was especially low, and we are missing that measurement for 28% of participants. SDO and nationalism are missing for 10% and 11% respectively. All other measurements are missing for less than 5% of participants.

Total participants: 1,656 **Participants with all construct measurements:** 1,065

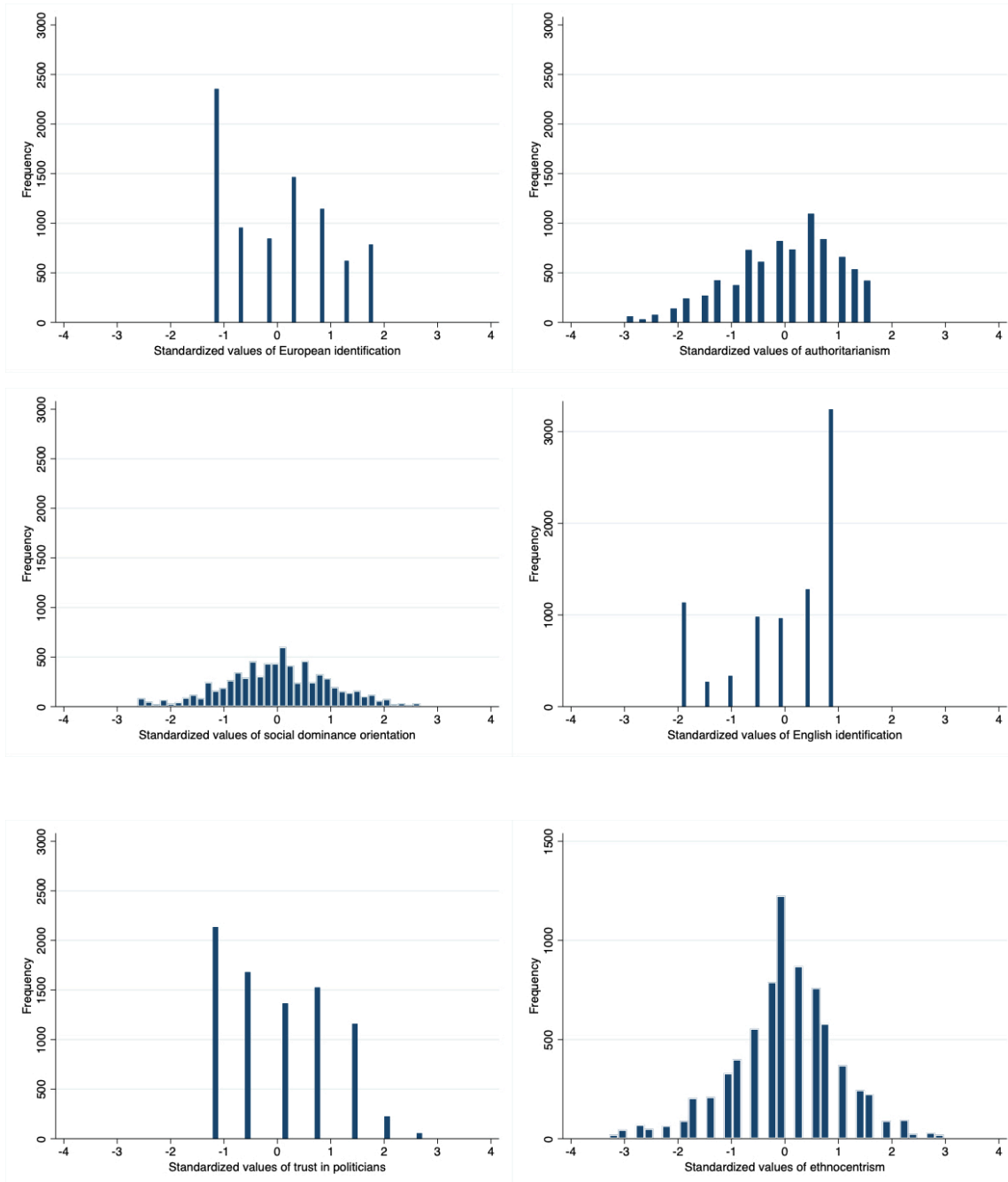
Total ballots: 8,280

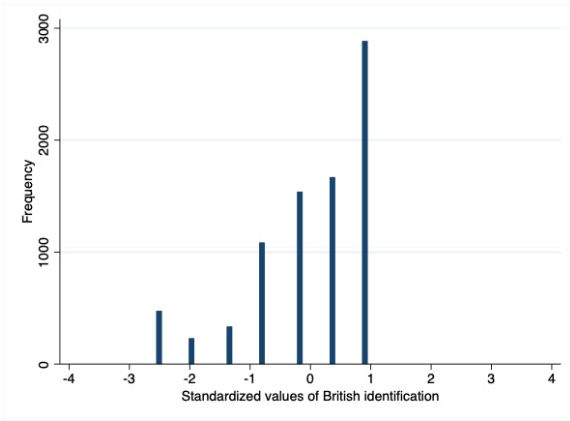
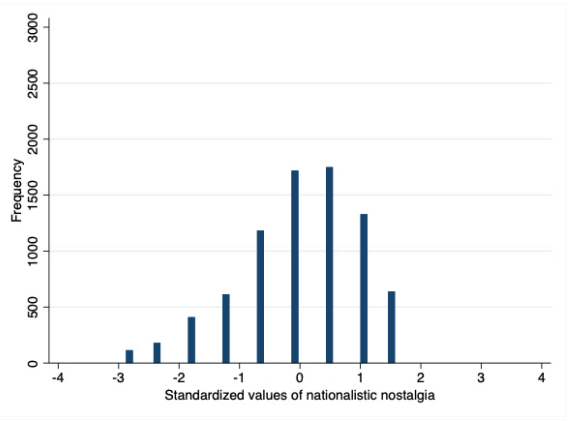
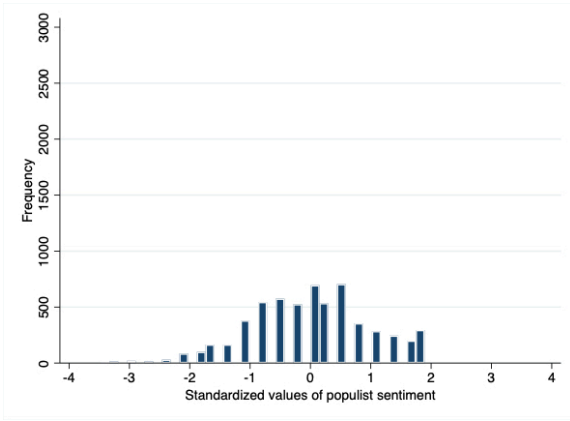
Table 7: Missingness of measurements for attitudinal traits

	<i>Number of participants missing measurements</i>	<i>Proportion of participants missing this measurement</i>	<i>Number of ballots impacted</i>
<i>European identification</i>	22	1.33%	110
<i>Authoritarianism</i>	44	2.66%	220
<i>Social dominance orientation</i>	172	10.45%	865
<i>English identification</i>	14	0.85%	70
<i>Trust in politicians</i>	27	1.63%	135
<i>Nationalism</i>	183	11.05%	915
<i>Nationalistic nostalgia</i>	67	4.05%	335
<i>Populist sentiment</i>	468	28.26%	2,340
<i>British identification</i>	12	0.72%	60

Appendix 5: Histograms of attitudinal trait measurements

Figure 7: Histograms of attitudinal trait measurements





Appendix 6: Measure of egalitarianism and analysis of Wave 15 sub-sample substituting social dominance orientation

Our measure of egalitarianism consisted of the following five items ($\alpha=0.708$).

Table 8: Survey items used to index egalitarianism

<i>Prompt</i>	<i>Item</i>	<i>Measurement</i>
<i>How much do you agree or disagree with the following statements?</i>	Government should redistribute incomes from the better off to those who are less well off	5-point likert scale
<i>Please say whether you think these things have gone too far or have not gone far enough in Britain.</i>	Attempts to give equal opportunities to ethnic minorities	5-point scale between “Not gone nearly far enough” and “Gone much too far”
<i>Please say whether you think these things have gone too far or have not gone far enough in Britain.</i>	Attempts to give equal opportunities to women	5-point scale between “Not gone nearly far enough” and “Gone much too far”
<i>Please say whether you think these things have gone too far or have not gone far enough in Britain.</i>	Attempts to give equal opportunities to gays and lesbians	5-point scale between “Not gone nearly far enough” and “Gone much too far”
<i>Some people feel that government should make much greater efforts to make people’s income more equal. Other people feel that government should be much less concerned about how equal people’s incomes are. Where would you place yourself and the political parties on this scale?</i>	Yourself	10-point scale between “Government should try to make incomes equal” and “Government should be less concerned about equal incomes”

Wave 15 sub-sample analysis

We also analysed our experiment results among the sub-sample (N=238) of our participants who responded to the short version of the SDO scale that was administered in a module of Wave 15 of the BES. We fit a bivariate model for vote choice with the candidate egalitarianism treatment term, participant SDO, and the interaction between the two to assess whether or not there is a conditional effect observed in this sub-sample. We find that among this smaller sample, participants’ level of SDO

conditions the way they react to the egalitarian statement from a candidate. Among this sub-sample, there is a stronger negative reaction to high SDO (or low egalitarianism) candidate signals than among our overall sample. However, we still observe a conditional effect with those relatively higher in SDO responding more positively to high SDO candidate signals and vice versa.

Table 9: Ordered logistic regression coefficients for Wave 15 SDO sub-sample

	<i>Coefficient</i>	<i>Standard error</i>	<i>Z</i>	<i>Lower 95% CI</i>	<i>Upper 95% CI</i>
<i>SDO interaction</i>	0.18*	0.06	3.18	0.07	0.29
<i>SDO candidate treatment</i>	-0.31***	0.06	-5.30	-0.42	-0.19
<i>Participant</i>	-0.05	0.05	-1.01	-0.16	0.05

* p<0.05, ** p<0.01, *** p <0.001

Appendix 7: Multi-collinearity statistics

As demonstrated by the values of the variance inflation factors (VIF) and tolerance values presented in the table below, the variables measuring participants' levels of social psychological attitudes are not multicollinear. The common cut off for VIF is below 5, and all variables are well below this value, with all of them also clearing a more conservative cut off of 2. The common cut off for tolerance values is above 0.4, and all tolerance values are above this value, reinforcing the fact that these variables are not at risk of multicollinearity.

Table 10: Collinearity statistics for variables measuring participants' attitudinal traits

<i>Participant measurements of:</i>	<i>VIF</i>	<i>Tolerance</i>
British identification	1.43	0.70
English identification	1.42	0.70
European identification	1.37	0.73
Nationalism	1.44	0.70
Political trust	1.29	0.78
National nostalgia	1.92	0.52
Populist sentiment	1.58	0.63
Authoritarianism	1.91	0.52
Social dominance orientation	1.23	0.81
Mean VIF	1.51	

Appendix 8: Multinomial logistic regression tables

Table 11: Results of multinomial logistic regression model with all interactions of attitudinal traits and lower order terms with “Not Sure” as the base

		<i>Coef.</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>Std Err</i>	χ^2	<i>P value</i>
<i>Candidate A</i>	High European identification						
	INT	-0.55	-0.70	-0.39	0.08	7.03	0.000
	Low European identification						
	INT	0.24	0.09	0.39	0.07	3.21	0.001
	High authoritarianism INT	-0.24	-0.33	-0.15	0.04	5.42	0.000
	Low authoritarianism INT	0.23	0.14	0.31	0.04	5.12	0.000
	High egalitarianism INT	-0.29	-0.20	-0.37	0.04	6.50	0.000
	Low egalitarianism INT	0.16	0.07	0.25	0.04	3.61	0.000
	High English identification INT	-0.15	-0.30	-0.01	0.07	2.04	0.041
	Low English identification INT	0.20	0.06	0.34	0.07	2.77	0.006
	High trust in politicians INT	-0.16	-0.24	-0.07	0.04	3.71	0.000
	Low trust in politicians INT	0.15	0.07	0.24	0.04	3.52	0.000
	High nationalism INT	-0.19	-0.28	-0.11	0.04	4.52	0.000
	Low nationalism INT	0.14	0.05	0.22	0.04	3.10	0.002
	High national nostalgia INT	-0.21	-0.29	-0.12	0.04	4.67	0.000
	Low national nostalgia INT	0.09	0.01	0.18	0.04	2.21	0.027
	High populist sentiment INT	-0.06	-0.15	0.02	0.04	1.49	0.137
	Low populist sentiment INT	0.13	0.05	0.22	0.04	3.01	0.003
	High British identification INT	-0.21	-0.35	-0.06	0.07	2.81	0.005
	Low British identification INT	0.23	0.08	0.39	0.08	3.01	0.003
	Gender/female INT	0.02	-0.07	0.11	0.04	0.43	0.668
	High European identification	0.12	-0.09	0.32	0.10	1.13	0.257
	Low European identification	0.01	-0.19	0.21	0.10	0.09	0.931
	High authoritarianism	0.01	-0.15	0.17	0.08	0.13	0.897
	Low authoritarianism	0.11	-0.05	0.28	0.08	1.32	0.186
	High egalitarianism	0.22	0.06	0.39	0.08	2.64	0.008
	Low egalitarianism	-0.07	-0.09	0.23	0.08	0.85	0.396
	High English identification	0.00	-0.20	0.20	0.10	0.02	0.983
	Low English identification	0.08	-0.13	0.28	0.10	0.75	0.455
	High trust in politicians	-0.02	-0.19	0.14	0.08	0.30	0.764
	Low trust in politicians	-0.04	-0.20	0.12	0.08	0.47	0.639
	High nationalism	0.07	-0.10	0.23	0.08	0.78	0.434
	Low nationalism	-0.13	-0.29	0.04	0.08	1.50	0.133

	High national nostalgia	-0.16	-0.32	0.01	0.08	-1.85	0.064
	Low national nostalgia	0.06	-0.11	0.22	0.08	0.67	0.500
	High populist sentiment	-0.19	-0.35	-0.02	0.08	-2.25	0.024
	Low populist sentiment	-0.19	-0.36	-0.03	0.08	-2.32	0.021
	High British identification	0.00					
	Low British identification	0.24	0.03	0.45	0.11	2.26	0.024
	Participant European identification	-0.06	-0.13	0.00	0.06	-1.01	0.314
	Participant authoritarianism	0.17	0.09	0.25	0.03	1.02	0.309
	Participant egalitarianism	0.05	-0.01	0.12	0.03	0.62	0.536
	Participant English identification	0.02	-0.04	0.09	0.03	-1.90	0.058
	Participant trust in politicians	-0.18	-0.25	-0.12	0.03	-2.21	0.027
	Participant nationalism	-0.07	-0.14	-0.01	0.03	5.68	0.000
	Participant national nostalgia	-0.05	-0.13	0.03	0.04	-1.31	0.189
	Participant populist sentiment	-0.08	-0.15	-0.01	0.04	2.27	0.023
	Participant British identification	0.03	-0.03	0.10	0.04	4.32	0.000
	Participant gender	0.06	-0.06	0.17	0.03	1.67	0.094
	Constant	-0.19	-0.38	-0.01	0.09	-2.04	0.041
<i>Not Sure</i>	(base)						
<i>Candidate B</i>	High European identification INT	0.50	0.35	0.65	0.08	6.46	0.000
	Low European identification INT	-0.21	-0.35	-0.06	0.07	-2.81	0.005
	High authoritarianism INT	0.34	0.25	0.42	0.04	7.79	0.000
	Low authoritarianism INT	-0.31	-0.39	-0.22	0.04	-7.17	0.000
	High egalitarianism INT	0.19	-0.04	0.28	0.04	-5.72	0.000
	Low egalitarianism INT	-0.25	-0.41	-0.09	0.04	4.36	0.000
	High English identification INT	0.38	0.23	0.53	0.07	5.09	0.000
	Low English identification INT	-0.06	-0.20	0.08	0.07	-0.86	0.392
	High trust in politicians INT	0.07	-0.02	0.15	0.04	1.58	0.114
	Low trust in politicians INT	-0.17	-0.25	-0.09	0.04	-3.94	0.000
	High nationalism INT	0.12	0.04	0.21	0.04	2.92	0.004
	Low nationalism INT	-0.14	-0.22	-0.05	0.04	-3.14	0.002
	High national nostalgia INT	0.11	0.03	0.20	0.04	2.54	0.011
	Low national nostalgia INT	-0.03	-0.11	0.06	0.04	-0.63	0.530
	High populist sentiment INT	0.12	0.03	0.20	0.04	2.74	0.006

Low populist sentiment INT	-0.12	-0.21	-0.03	0.04	-2.68	0.007
High British identification INT	-0.06	-0.20	0.08	0.07	-0.79	0.432
Low British identification INT	-0.05	-0.21	0.10	0.08	-0.71	0.477
Gender/female INT	0.00	-0.08	0.09	0.05	0.10	0.917
High European identification	-0.25	-0.45	-0.04	0.10	-2.38	0.017
Low European identification	-0.20	-0.40	0.00	0.10	-1.95	0.051
High authoritarianism	0.02	-0.14	0.18	0.08	0.20	0.843
Low authoritarianism	-0.25	-0.41	-0.08	0.08	-2.98	0.003
High egalitarianism	-0.25	-0.33	-0.16	0.04	-5.72	0.000
Low egalitarianism	0.12	0.10	0.27	0.04	4.36	0.000
High English identification	-0.07	-0.27	0.13	0.10	-0.73	0.468
Low English identification	-0.23	-0.43	-0.02	0.10	-2.20	0.028
High trust in politicians	-0.05	-0.21	0.11	0.08	-0.63	0.531
Low trust in politicians	-0.11	-0.27	0.05	0.08	-1.30	0.195
High nationalism	-0.10	-0.26	0.07	0.08	-1.16	0.247
Low nationalism	0.01	-0.15	0.17	0.08	0.09	0.931
High national nostalgia	0.00	-0.16	0.16	0.08	-0.04	0.972
Low national nostalgia	-0.08	-0.24	0.08	0.08	-0.97	0.330
High populist sentiment	0.04	-0.12	0.20	0.08	0.50	0.617
Low populist sentiment	0.12	-0.04	0.28	0.08	1.41	0.158
High British identification	0.00					
Low British identification	-0.17	-0.38	0.03	0.10	-1.66	0.098
Participant European identification	-0.02	-0.08	0.04	0.06	-3.40	0.001
Participant authoritarianism	-0.10	-0.18	0.03	0.03	1.51	0.131
Participant egalitarianism	-0.04	-0.10	0.02	0.03	1.75	0.079
Participant English identification	0.06	-0.01	0.12	0.03	-0.62	0.536
Participant trust in politicians	0.19	0.13	0.25	0.03	-0.68	0.496
Participant nationalism	-0.02	-0.09	0.04	0.03	6.05	0.000
Participant national nostalgia	-0.04	-0.11	0.04	0.04	-0.99	0.323
Participant populist sentiment	0.09	0.02	0.16	0.04	2.56	0.010
Participant British identification	0.05	-0.01	0.12	0.04	2.65	0.008
Participant gender	-0.19	-0.31	-0.08	0.03	1.33	0.184
Constant	0.06	-0.12	0.24	0.09	0.68	0.496

Table 12: Results of a multinomial logistic regression model with all interactions and lower order terms, including left-right ideology interactions and partisan interactions with “Not Sure” as the base

		<i>Coef.</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>Std Err</i>	ζ	<i>P value</i>
<i>Candidate A</i>	High European identification INT	-0.47	-0.64	-0.31	0.08	-5.78	0.000
	Low European identification INT	0.17	0.02	0.33	0.08	2.17	0.030
	High authoritarianism INT	-0.24	-0.33	-0.15	0.05	-5.03	0.000
	Low authoritarianism INT	0.20	0.11	0.29	0.05	4.18	0.000
	High egalitarianism INT	0.20	0.10	0.30	0.05	3.86	0.000
	Low egalitarianism INT	-0.13	-0.23	-0.03	0.05	-2.63	0.008
	High English identification INT	-0.11	-0.27	0.04	0.08	-1.42	0.154
	Low English identification INT	0.20	0.05	0.35	0.08	2.66	0.008
	High trust in politicians INT	-0.16	-0.25	-0.08	0.04	-3.77	0.000
	Low trust in politicians INT	0.15	0.07	0.24	0.04	3.46	0.001
	High nationalism INT	-0.13	-0.22	-0.04	0.05	-2.87	0.004
	Low nationalism INT	0.10	0.01	0.19	0.05	2.09	0.037
	High national nostalgia INT	-0.19	-0.28	-0.10	0.05	-4.03	0.000
	Low national nostalgia INT	0.09	0.00	0.18	0.04	2.06	0.039
	High populist sentiment INT	-0.06	-0.15	0.03	0.04	-1.37	0.172
	Low populist sentiment INT	0.14	0.05	0.23	0.05	3.00	0.003
	High British identification INT	-0.18	-0.33	-0.03	0.08	-2.41	0.016
	Low British identification INT	0.22	0.06	0.38	0.08	2.75	0.006
	Gender/female INT	0.03	-0.06	0.12	0.05	0.60	0.549
	High European identification	0.16	-0.05	0.37	0.11	1.47	0.141
	Low European identification	0.01	-0.20	0.21	0.10	0.05	0.958
	High authoritarianism	0.03	-0.13	0.20	0.08	0.40	0.691
	Low authoritarianism	0.14	-0.03	0.30	0.09	1.61	0.108
	High egalitarianism	0.09	-0.07	0.26	0.08	1.12	0.262
	Low egalitarianism	-0.21	-0.38	-0.05	0.09	-2.51	0.012
	High English identification	0.03	-0.17	0.24	0.10	0.31	0.760
	Low English identification	0.10	-0.11	0.31	0.11	0.95	0.341
	High trust in politicians	-0.01	-0.17	0.16	0.08	-0.09	0.931
	Low trust in politicians	-0.02	-0.18	0.15	0.08	-0.22	0.828
	High nationalism	0.07	-0.09	0.24	0.08	0.87	0.384
	Low nationalism	-0.12	-0.29	0.05	0.08	-1.42	0.157
	High national nostalgia	-0.14	-0.31	0.03	0.09	-1.63	0.103
	Low national nostalgia	0.07	-0.10	0.23	0.08	0.78	0.433
High populist sentiment	-0.17	-0.34	-0.01	0.08	-2.06	0.040	
Low populist sentiment	-0.19	-0.35	-0.02	0.08	-2.20	0.028	

High British identification						
Low British identification	0.27	0.06	0.48	0.11	2.54	0.011
High European identification L-R						
INT	0.17	-0.10	0.43	0.14	1.21	0.228
Low European identification L-R						
INT	-0.16	-0.43	0.11	0.14	-1.14	0.256
High authoritarianism L-R INT	-0.05	-0.26	0.17	0.11	-0.43	0.666
Low authoritarianism L-R INT	-0.03	-0.25	0.19	0.11	-0.29	0.774
High egalitarianism L-R INT	0.10	-0.12	0.32	0.11	0.91	0.361
Low egalitarianism L-R INT	-0.03	-0.25	0.18	0.11	-0.30	0.762
High English identification L-R						
INT	-0.19	-0.45	0.08	0.14	-1.39	0.164
Low English identification L-R						
INT	-0.06	-0.33	0.20	0.14	-0.46	0.644
High trust in politicians L-R INT	0.00	-0.22	0.21	0.11	-0.01	0.990
Low trust in politicians L-R INT	-0.07	-0.29	0.14	0.11	-0.66	0.509
High nationalism L-R INT	-0.12	-0.33	0.10	0.11	-1.07	0.286
Low nationalism L-R INT	0.11	-0.11	0.33	0.11	1.00	0.317
High national nostalgia L-R INT	-0.14	-0.36	0.08	0.11	-1.28	0.201
Low national nostalgia L-R INT	0.11	-0.11	0.33	0.11	1.00	0.319
High populist sentiment L-R INT	0.02	-0.20	0.23	0.11	0.15	0.879
Low populist sentiment L-R INT	0.12	-0.09	0.34	0.11	1.12	0.262
High British identification L-R						
INT	0.00					
Low British identification L-R INT	0.07	-0.20	0.34	0.14	0.51	0.611
High European identification						
PAST VOTE INT	0.39	0.11	0.67	0.14	2.73	0.006
Low European identification						
PAST VOTE INT	0.05	-0.23	0.32	0.14	0.33	0.744
High authoritarianism PAST						
VOTE INT	0.22	0.01	0.44	0.11	2.01	0.045
Low authoritarianism PAST						
VOTE INT	0.36	0.14	0.58	0.11	3.21	0.001
High egalitarianism PAST VOTE						
INT	0.33	0.11	0.55	0.11	2.94	0.003
Low egalitarianism PAST VOTE						
INT	0.15	-0.07	0.38	0.11	1.38	0.169
High English identification PAST						
VOTE INT	0.26	-0.01	0.53	0.14	1.92	0.055

	Low English identification PAST						
	VOTE INT	0.30	0.02	0.57	0.14	2.12	0.034
	High trust in politicians PAST						
	VOTE INT	0.19	-0.02	0.41	0.11	1.75	0.080
	Low trust in politicians PAST						
	VOTE INT	0.27	0.05	0.48	0.11	2.45	0.014
	High nationalism PAST VOTE						
	INT	0.08	-0.14	0.29	0.11	0.69	0.492
	Low nationalism PAST VOTE						
	INT	0.25	0.03	0.47	0.11	2.27	0.023
	High national nostalgia PAST						
	VOTE INT	0.27	0.05	0.49	0.11	2.41	0.016
	Low national nostalgia PAST						
	VOTE INT	0.09	-0.13	0.31	0.11	0.82	0.410
	High populist sentiment PAST						
	VOTE INT	0.11	-0.10	0.32	0.11	1.02	0.307
	Low populist sentiment PAST						
	VOTE INT	0.14	-0.08	0.36	0.11	1.28	0.202
	High British identification PAST						
	VOTE INT	0.00					
	Low British identification PAST						
	VOTE INT	0.23	-0.05	0.52	0.14	1.62	0.106
	Participant European identification	0.01	-0.05	0.08	0.03	0.44	0.660
	Participant authoritarianism	-0.05	-0.12	0.01	0.03	-1.52	0.128
	Participant egalitarianism	-0.08	-0.14	-0.01	0.03	-2.25	0.025
	Participant English identification	0.17	0.11	0.24	0.03	5.24	0.000
	Participant trust in politicians	-0.06	-0.14	0.02	0.04	-1.52	0.129
	Participant nationalism	0.09	0.02	0.16	0.04	2.47	0.014
	Participant national nostalgia	0.17	0.09	0.24	0.04	4.15	0.000
	Participant populist sentiment	0.02	-0.05	0.08	0.03	0.46	0.644
	Participant British identification	0.03	-0.04	0.09	0.03	0.76	0.450
	Participant left-right self-placement	0.11	0.03	0.19	0.04	2.79	0.005
	Participant past vote 2017 (left to						
	right parties)	0.00	-0.08	0.08	0.04	0.07	0.941
	Participant gender	-0.05	-0.17	0.06	0.06	-0.86	0.387
	Constant	-0.23	-0.41	-0.04	0.10	-2.38	0.017
<i>Not Sure</i>	(base)						
<i>Candidate B</i>	High European identification INT	0.45	0.29	0.61	0.08	5.47	0.000

Low European identification INT	-0.22	-0.37	-0.07	0.08	-2.84	0.005
High authoritarianism INT	0.31	0.22	0.40	0.05	6.67	0.000
Low authoritarianism INT	-0.30	-0.39	-0.21	0.05	-6.46	0.000
High egalitarianism INT	-0.15	-0.25	-0.05	0.05	-2.99	0.003
Low egalitarianism INT	0.13	0.03	0.22	0.05	2.52	0.012
High English identification INT	0.38	0.23	0.54	0.08	4.82	0.000
Low English identification INT	-0.03	-0.18	0.12	0.08	-0.44	0.661
High trust in politicians INT	0.07	-0.01	0.16	0.04	1.72	0.086
Low trust in politicians INT	-0.18	-0.27	-0.10	0.04	-4.19	0.000
High nationalism INT	0.14	0.05	0.23	0.05	2.99	0.003
Low nationalism INT	-0.10	-0.19	-0.01	0.05	-2.15	0.032
High national nostalgia INT	0.10	0.01	0.19	0.05	2.14	0.033
Low national nostalgia INT	-0.06	-0.14	0.03	0.04	-1.26	0.208
High populist sentiment INT	0.11	0.03	0.20	0.04	2.62	0.009
Low populist sentiment INT	-0.13	-0.22	-0.04	0.05	-2.89	0.004
High British identification INT	-0.08	-0.22	0.07	0.07	-1.06	0.291
Low British identification INT	-0.03	-0.19	0.13	0.08	-0.37	0.712
Gender/female INT	0.01	-0.08	0.10	0.05	0.21	0.834
High European identification	-0.25	-0.45	-0.04	0.11	-2.34	0.019
Low European identification	-0.21	-0.41	-0.01	0.10	-2.06	0.040
High authoritarianism	0.02	-0.14	0.19	0.08	0.30	0.768
Low authoritarianism	-0.24	-0.40	-0.08	0.08	-2.88	0.004
High egalitarianism	0.12	-0.05	0.28	0.08	1.40	0.161
Low egalitarianism	-0.25	-0.42	-0.09	0.08	-3.06	0.002
High English identification	-0.07	-0.28	0.13	0.10	-0.71	0.479
Low English identification	-0.23	-0.44	-0.03	0.10	-2.24	0.025
High trust in politicians	-0.05	-0.21	0.11	0.08	-0.57	0.566
Low trust in politicians	-0.10	-0.27	0.06	0.08	-1.27	0.204
High nationalism	-0.11	-0.27	0.05	0.08	-1.33	0.182
Low nationalism	0.01	-0.16	0.17	0.08	0.09	0.928
High national nostalgia	-0.01	-0.17	0.15	0.08	-0.12	0.902
Low national nostalgia	-0.08	-0.24	0.08	0.08	-0.94	0.348
High populist sentiment	0.05	-0.12	0.21	0.08	0.55	0.582
Low populist sentiment	0.12	-0.04	0.29	0.08	1.49	0.137
High British identification	0.00					
Low British identification	-0.18	-0.38	0.03	0.11	-1.68	0.093
High European identification L-R INT	-0.33	-0.59	-0.07	0.13	-2.47	0.013

Low European identification L-R						
INT	-0.05	-0.31	0.21	0.13	-0.36	0.721
High authoritarianism L-R INT	-0.07	-0.27	0.13	0.10	-0.67	0.503
Low authoritarianism L-R INT	-0.14	-0.34	0.07	0.11	-1.28	0.202
High egalitarianism L-R INT	-0.17	-0.38	0.03	0.11	-1.64	0.100
Low egalitarianism L-R INT	0.10	-0.11	0.30	0.11	0.91	0.364
High English identification L-R						
INT	-0.15	-0.41	0.10	0.13	-1.16	0.246
Low English identification L-R						
INT	-0.17	-0.43	0.09	0.13	-1.28	0.201
High trust in politicians L-R INT	-0.15	-0.35	0.06	0.11	-1.40	0.162
Low trust in politicians L-R INT	-0.12	-0.32	0.09	0.10	-1.11	0.267
High nationalism L-R INT	-0.03	-0.24	0.17	0.10	-0.31	0.759
Low nationalism L-R INT	-0.10	-0.31	0.10	0.11	-0.98	0.327
High national nostalgia L-R INT	-0.06	-0.27	0.15	0.11	-0.57	0.570
Low national nostalgia L-R INT	-0.05	-0.25	0.16	0.11	-0.46	0.649
High populist sentiment L-R INT	-0.09	-0.29	0.12	0.10	-0.82	0.410
Low populist sentiment L-R INT	-0.06	-0.27	0.14	0.10	-0.61	0.539
High British identification L-R						
INT	0.00					
Low British identification L-R INT	-0.16	-0.42	0.10	0.13	-1.18	0.238
High European identification						
PAST VOTE INT	-0.08	-0.36	0.20	0.14	-0.53	0.597
Low European identification						
PAST VOTE INT	-0.13	-0.40	0.14	0.14	-0.93	0.352
High authoritarianism PAST						
VOTE INT	0.03	-0.19	0.24	0.11	0.26	0.798
Low authoritarianism PAST						
VOTE INT	-0.08	-0.30	0.13	0.11	-0.74	0.457
High egalitarianism PAST VOTE						
INT	-0.20	-0.42	0.01	0.11	-1.85	0.064
Low egalitarianism PAST VOTE						
INT	-0.10	-0.32	0.11	0.11	-0.94	0.347
High English identification PAST						
VOTE INT	0.00	-0.27	0.27	0.14	0.01	0.989
Low English identification PAST						
VOTE INT	-0.12	-0.39	0.15	0.14	-0.87	0.385
High trust in politicians PAST						
VOTE INT	-0.01	-0.22	0.20	0.11	-0.09	0.927

Low trust in politicians PAST						
VOTE INT	-0.02	-0.23	0.20	0.11	-0.15	0.880
High nationalism PAST VOTE						
INT	-0.15	-0.36	0.07	0.11	-1.35	0.178
Low nationalism PAST VOTE						
INT	-0.17	-0.38	0.05	0.11	-1.52	0.127
High national nostalgia PAST						
VOTE INT	-0.06	-0.28	0.15	0.11	-0.58	0.565
Low national nostalgia PAST						
VOTE INT	-0.02	-0.24	0.19	0.11	-0.22	0.825
High populist sentiment PAST						
VOTE INT	-0.02	-0.23	0.19	0.11	-0.19	0.849
Low populist sentiment PAST						
VOTE INT	-0.05	-0.26	0.16	0.11	-0.46	0.643
High British identification PAST						
VOTE INT	0.00					
Low British identification PAST						
VOTE INT	-0.14	-0.42	0.14	0.14	-0.99	0.323
Participant European identification	-0.01	-0.07	0.05	0.03	-0.32	0.749
Participant authoritarianism	0.09	0.01	0.17	0.04	2.33	0.020
Participant egalitarianism	0.00	-0.07	0.07	0.03	0.05	0.956
Participant English identification	0.05	-0.02	0.11	0.03	1.43	0.152
Participant trust in politicians	0.18	0.12	0.25	0.03	5.63	0.000
Participant nationalism	-0.03	-0.10	0.03	0.03	-0.94	0.346
Participant national nostalgia	-0.04	-0.11	0.04	0.04	-1.02	0.309
Participant populist sentiment	0.10	0.03	0.17	0.04	2.82	0.005
Participant British identification	0.05	-0.02	0.11	0.03	1.43	0.152
Participant left-right self-placement	0.11	0.03	0.18	0.04	2.79	0.005
Participant past vote 2017 (left to right parties)	0.00	-0.08	0.08	0.04	-0.05	0.964
Participant gender	-0.18	-0.29	-0.07	0.06	-3.16	0.002
Constant	0.02	-0.16	0.21	0.09	0.25	0.800

Appendix 9: Bivariate ordered logistic regression models

Bivariate models, including the outcome variable (vote choice) and the interaction terms between the treatment terms and the participant construct measurements, were fit in order to confirm that no suppression effects were taking place in the full model with all variables. As presented in Table 13, these models confirm that the full model accurately captures the associations between the interactions and vote choice.

Table 13: Coefficient and model statistics for bivariate ordered logistic regression models for vote choice; each grouping (i.e. high European identification) includes the coefficients from one bivariate model

		<i>Coefficient</i>	<i>Standard error</i>	z	<i>P-value</i>	<i>Lower 95% CI</i>	<i>Upper 95% CI</i>
<i>High European identification</i>	Interaction term	0.68	0.06	12.06	0.000	0.57	0.79
	Treatment term	-0.24	0.05	-4.41	0.000	-0.35	-0.13
	Participant construct measure	0.03	0.02	1.31	0.190	-0.01	0.07
<i>Low European identification</i>	Interaction term	-0.22	0.05	-4.13	0.000	-0.32	-0.12
	Treatment term	-0.13	0.05	-2.49	0.013	-0.24	-0.03
	Participant construct measure	0.03	0.02	1.35	0.177	-0.01	0.07
<i>High authoritarianism</i>	Interaction term	0.35	0.03	11.27	0.000	0.29	0.42
	Treatment term	0.03	0.03	0.99	0.322	-0.03	0.09
	Participant construct measure	-0.03	0.02	-1.23	0.219	-0.07	0.01

<i>Low authoritarianism</i>	Interaction term	-0.35	0.03	-11.05	0.000	-0.41	-0.29
	Treatment term	-0.25	0.03	-8.08	0.000	-0.31	-0.19
	Participant construct measure	-0.02	0.02	-1.08	0.281	-0.06	0.02
<i>High egalitarianism</i>	Interaction term	-0.33	0.03	-10.44	0.000	-0.40	-0.27
	Treatment term	0.22	0.03	7.18	0.000	0.16	0.29
	Participant construct measure	0.00	0.02	-0.17	0.862	-0.04	0.04
<i>Low egalitarianism</i>	Interaction term	0.20	0.03	6.27	0.000	0.14	0.26
	Treatment term	-0.16	0.03	-5.18	0.000	-0.22	-0.10
	Participant construct measure	-0.01	0.02	-0.45	0.651	-0.05	0.03
<i>High English identification</i>	Interaction term	0.33	0.05	6.01	0.000	0.22	0.43
	Treatment term	-0.02	0.05	-0.39	0.700	-0.13	0.08
	Participant construct measure	0.02	0.02	0.84	0.404	-0.02	0.06
<i>Low English identification</i>	Interaction term	-0.14	0.05	-2.70	0.007	-0.25	-0.04
	Treatment term	-0.21	0.05	-3.95	0.000	-0.32	-0.11
	Participant construct measure	0.02	0.02	0.80	0.426	-0.02	0.06

<i>High trust in MPs</i>	Interaction term	0.16	0.03	5.18	0.000	0.10	0.22
	Treatment term	0.00	0.03	0.16	0.873	-0.06	0.07
	Participant construct measure	0.03	0.02	1.30	0.193	-0.01	0.07
<i>Low trust in MPs</i>	Interaction term	-0.22	0.03	-7.03	0.000	-0.28	-0.16
	Treatment term	-0.04	0.03	-1.35	0.177	-0.10	0.02
	Participant construct measure	0.02	0.02	1.14	0.254	-0.02	0.06
<i>High nationalism</i>	Interaction term	0.20	0.03	6.40	0.000	0.14	0.26
	Treatment term	-0.07	0.03	-2.29	0.022	-0.13	-0.01
	Participant construct measure	0.02	0.02	1.18	0.237	-0.02	0.06
<i>Low nationalism</i>	Interaction term	-0.15	0.03	-4.62	0.000	-0.21	-0.08
	Treatment term	0.12	0.03	3.73	0.000	0.06	0.18
	Participant construct measure	0.02	0.02	1.11	0.266	-0.02	0.06
<i>High national nostalgia</i>	Interaction term	0.20	0.03	6.26	0.000	0.14	0.26
	Treatment term	0.12	0.03	3.74	0.000	0.06	0.18
	Participant construct measure	-0.02	0.02	-0.73	0.463	-0.06	0.03

<i>Low national nostalgia</i>	Interaction term	-0.07	0.03	-2.32	0.021	-0.13	-0.01
	Treatment term	-0.07	0.03	-2.30	0.021	-0.13	-0.01
	Participant construct measure	-0.02	0.02	-0.89	0.373	-0.06	0.02
<i>High populist sentiment</i>	Interaction term	0.11	0.03	3.37	0.001	0.04	0.17
	Treatment term	0.20	0.03	6.39	0.000	0.14	0.26
	Participant construct measure	-0.02	0.02	-0.86	0.388	-0.06	0.02
<i>Low populist sentiment</i>	Interaction term	-0.15	0.03	-4.54	0.000	-0.21	-0.08
	Treatment term	0.26	0.03	8.16	0.000	0.19	0.32
	Participant construct measure	-0.02	0.02	-0.97	0.334	-0.06	0.02
<i>High British identification</i>	Interaction term	0.09	0.05	1.81	0.071	-0.01	0.20
	Treatment term	-0.01	0.05	-0.20	0.844	-0.12	0.10
	Participant construct measure	0.01	0.02	0.60	0.547	-0.03	0.05
<i>Low British identification</i>	Interaction term	-0.22	0.06	-3.82	0.000	-0.33	-0.10
	Treatment term	-0.28	0.05	-5.03	0.000	-0.38	-0.17
	Participant construct measure	0.01	0.02	0.52	0.601	-0.03	0.05

4. My kind of leader? Perceived similarity, vote intention, and the group-based commitments that shape them

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Abstract

Voters have unprecedented access to information about political candidates, but what candidate characteristics matter most? And do voters' characteristics condition the way they evaluate candidates? Existing literature suggests that voters seek out information about candidates to inform perceptions of key traits or to identify shared characteristics. A group-based approach suggests that we are not only seeking leaders who are similar to us or ingroup members, but also leaders who share our preferences for how groups are organised in society. This group-based approach suggests perceptions of similarity should be more important to voters than traditional candidate traits, such as warmth and competence. We investigate this with two nationally representative discrete choice experiments conducted in the United Kingdom and the United States, featuring realistic candidate profiles which vary socio-demographic, partisan, and ideological information. In terms of what underlies perceived similarity, our findings indicate voters are seeking leaders who share their commitments to certain groups (i.e. the nation and political party), ways of organising the group (i.e. authoritarianism), and ways of distributing resources and power between groups (i.e. egalitarianism) rather than leaders who simply share their demographic characteristics. We also find that perceived similarity is more strongly linked to vote intention than perceived warmth or competence. Voters identify with and want to support candidates who share their group-based commitments more so than supporting candidates who simply look like them.

Key words: vote intention, group-based commitments, discrete choice experiment, adaptive followership, authoritarianism, egalitarianism

Voters' unprecedented access to information about political candidates includes everything from their personal lives to statements and positions on niche policies. Some scholars contend that our politics, in general, are becoming more personalised, meaning the candidate as an individual has become more influential than parties or policy positions on voting decisions (for reviews, see Cross, et al., 2018 and Adam & Maier, 2010). The personalisation of politics literature argues that the candidate as an individual has surpassed the party or policy issues as the focus of the political realm, including campaign strategy, media reporting, and importantly, voting behaviour (for a review, see Garzia, 2011). This approach assumes that as the importance of individual candidate characteristics increase, the importance of the ideological concerns that draw us toward policies and platforms decreases (see Cross, et al., 2018 and Adam & Maier, 2010). Yet, is it necessarily the case that attention toward candidate characteristics comes at the cost of attention to their ideological platform? Less literature has focused on characterising the underlying cognitive mechanisms driving preference for particular candidates over others, and whether such mechanisms may in fact be more ideological in nature.

One explanation for why voters are seeking out information about political candidates is to identify shared characteristics. The tendency to prefer political candidates with whom voters share characteristics, or voter homophily, has been observed in many electoral contexts, and the political science literature has contrasted the relative effects of shared demographic or physical attributes versus shared ideological or psychological attributes (see Campbell et al., 1960; Cutler, 2002; Bailenson et al., 2008; Hanretty et al., 2020). Homophily has been observed along socio-demographic factors (Campbell et al., 1960; Cutler, 2002; Schwarz & Coppock, 2020) and physical appearance (Bailenson et al., 2008) as well as along more ideological lines, such as shared policy preferences (Bafumi & Shapiro, 2009; Hanretty et al., 2020), shared personality traits (Caprara et al., 2007; Aichholzer & Willman 2020), and of course, shared partisan identity (for reviews, see Green et al, 2004 and Bankert, 2021). Demographic homophily implies that we vote for candidates to advance the standing of our demographic group or to represent the experiences of people who are like us on key demographic attributes, while ideological or psychological homophily, on the other hand, implies we prefer candidates who think the same way we do (see Baron et al., 2022a).

The question remains, however, as to what drives voters to perceive candidates as similar to themselves and similarity of which characteristics matters most. Which shared attributes between a voter and candidate cause the voter to perceive similarity with the candidate? And in addition to perceptions of similarity, do these shared attributes also have consequences for political behaviour and shape vote intention?

The present study employs a series of choice experiments in two countries to address this set of questions. Which shared attributes make voters see candidates as similar to themselves, shared demographics or shared ideology? Candidate communication pertaining to group-based commitments, such as identification with the ingroup (i.e. the nation and a political party), within-group preferences for authority (authoritarianism), and between-group preferences for the allocations of resources and power (egalitarianism), should be the most influential factors of a candidate's profile (including socio-demographics) for perceptions of similarity. Are these shared attributes also influential on vote intention? Shared group-based commitments should also be the most influential factors for vote intention over and above the effects of shared socio-demographics attributes. Moreover, how does our approach focused on group-based commitments compared to adaptive followership theory? Does the perception of dominance or the preference for dominance shapes voter's evaluation of potential leaders? If adaptive followership theory is correct then the perception of dominance should be more important for vote intention, and if our approach focused on group-based commitments, specifically preference for dominance over other groups, is correct then shared dominance/egalitarianism preferences should be more influential on vote intention. Lastly, which are more closely linked to voting, leadership traits or homophily? If voting decisions are tapping into our coalitional psychology, then perceived similarity should be more strongly correlated with intention to vote for a candidate than perceptions of warmth and competence.

We address these questions with two experiments, one in the United Kingdom (N=1,634) and one in the United States (N=801). By presenting participants with candidate profiles including randomly varied party affiliation, expressions of ingroup (national) identification, authoritarianism, and egalitarianism, and sociodemographic attributes, including gender, ethnicity, age, sexual orientation, marital status, and parental status. This design improves upon recent relevant experiments (e.g. Baron, et al., 2022a) by making the profiles more realistic with photos of actual political candidates.

Our findings support the hypotheses founded on coalitional psychology and group-based commitments. We observed strong and consistent differential responses to perceptions of similarity and vote intention based on group commitments. Perceptions of similarity and vote intention were most influenced by candidates' expression of group-based commitments, specifically authoritarianism, egalitarianism, and ingroup identifications (partisan affiliation and national identification). We did not observe patterns of homophily – either in terms of similarity perceptions or vote intention – for any of the sociodemographic attributes. Our comparison with adaptive followership theory confirmed that the shared preference for between-group dominance or egalitarianism is more influential on vote intention than interaction between dominance preferences and the perception of physical dominance. Lastly, in

both contexts, perceptions of similarity were more strongly associated with vote intention than perceptions of warmth and competence.

This study extends the existing literature on candidate evaluations by embedding it in the literature on coalitional psychology. We see candidates who shared our group-based commitments and not necessarily our demographics as more similar to us. Our findings indicate that perceptions of similarity are even more important than perceptions of warmth and competence for vote choice, that we look for someone who is ‘my kind’ of leader. Overall, our findings indicate that focusing on individuals does not necessarily mean ignoring ideological platforms, as we prefer leaders who will enact our preferred group commitments.

Personalisation of politics

The personalisation of politics refers to the claim that politicians’ personal lives and traits appear to be increasing in importance relative to political parties and policy issues (for a review, see Garzia, 2011). The literature on this personalisation of politics suggests that individual political actors as well as their personalities and personal lives are becoming more important than party affiliation or platforms for voters’ evaluations (for reviews, see Cross, et al., 2018 and Adam & Maier, 2010). Research on this topic suggests partisan attachment, previously driven by social identities like class and religion, is becoming less relevant for vote choice in comparison with voters’ attitudes towards party leaders (Garzia, 2013). Central to the personalisation proposition is the idea that campaign strategy, media reporting, and voting behaviour are increasingly based on evaluations of candidates, instead of evaluations of issues and the parties’ positions on key issues (Adam & Maier, 2010). Put another way, some political scientists suggest voters’ focus has shifted from parties to politicians and from issues to individuals.

While the evidence in support of this rise in personalisation is mixed (see Radunski, 1980 and Briggs & Burke, 2002), it is clear and relevant to our study that contemporary political communications, particularly social media, offer an unprecedented opportunity for politicians to present themselves and their lives directly to voters (Hernandez-Santaolalla, 2020). Given this increased access to information about candidates’ personal lives and traits, which particular characteristics are most important to voters? Which candidate attributes are most influential on voters’ evaluations of candidates? The perceptions voters form (based on these candidate attributes) is, therefore, of particular interest, especially those particular candidate perceptions which are strongly linked to and may influence vote choice.

Candidate traits

An assumption underlying the personalisation of politics literature is that voters are seeking information about the candidate to shape their perception of candidates’ traits, particularly those related to

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leadership. One pressing question that this literature raises is whether the purportedly increasing focus on candidates and their personal attributes has decreased our consideration of candidate's ideology as well as party's ideologies. Rather than ideology, the personalisation argument bolsters a focus on candidate traits, which implies that leaders require certain qualities to lead or govern well. For decades, researchers have investigated which candidate traits are most consistently and strongly linked to voting.

While much of the political science literature has focused on perceptions of competence (e.g. McGraw, 2011 and McAllister, 2016) and the social psychology literature has highlighted perceptions of warmth (e.g. Wojciszke & Klusek, 1996), both have drawn from the model developed by Kinder (1986) and validated by Funk (1999). This framework identified four distinct dimensions of candidate evaluations: competence, warmth, leadership, and integrity (Kinder, 1986). Researchers using this general framework find that voters do indeed rely on perceptions of these traits when evaluating competing candidates and making those perceptions to inform electoral decisions (e.g., Bartels, 2002a; Fridkin & Kenny, 2011).

A study, including all four perceptions from Kinder's (1986) framework, demonstrated that warmth was the strongest correlational predictor of vote choice among the four and that warmth was more influential on vote choice as compared with competence in an experimental setting (Lausten & Bor, 2017). Notably, the measurement for perceptions of warmth in the aforementioned cross-sectional analysis included a survey item, asking to what extent does the candidate "care about people like you", part of which is consistent with the "caring" aspect of warmth perceptions (Kinder, 1986) but also introduces the consideration of how much attention the candidate hypothetically pays to members of one's own ingroup (Lausten & Bor, 2017). Indeed, theory and research on this topic has identified warmth and competence as two key dimensions of social perception (see Bittner, 2011 and Ohr & Oscarsson, 2013). Taken together, this recent research in addition to the political science and social psychology literature make a strong case for the influential role perceptions of candidates' warmth and competence play in voting decisions.

Homophily in voting

Another reason why voters may be paying considerable attention to candidates and their personal characteristics relates to homophily, our preference for people similar to ourselves. For decades, scholars have observed and investigated the phenomenon of voter homophily, the tendency of people to vote for candidates who share their attributes. Indeed, scholars have detected a connection between the personalisation of politics and an increased effort by candidates to appear "similar" to the electorate (for a review, see Garzia, 2011).

The political science literature differentiates between demographic and ideological characteristics as explanations for vote choice. In terms of demographic and physical traits, there is evidence voters tend to prefer candidates that match their own sociodemographic attributes, such as gender and ethnicity (Campbell et al., 1960; Cutler, 2002; Schwarz & Coppock, 2020) and physical appearance (Bailenson et al., 2008). In terms of more ideological and psychological traits, there is also evidence voters have also been observed to prefer candidates with whom they agree on issues or policy positions (Hanretty et al., 2020) or share personality traits (Caprara et al., 2007; Aichholzer & Willman 2020). Instead of deliberating between the demographic or ideological basis of homophily, perhaps it is crucial to address why voters prefer “similar” candidates more fundamentally. Many explanations for these patterns of homophily simply imply that these similarities act as a heuristic for likeability, but leave the question open as to why similar candidates are more liked and more preferred for political office.

Coalitional psychology and group-based commitments

A group-based approach suggests that we may prefer “similar” candidates because similarity is a cue to shared group membership. Such an approach suggests that political contexts tap into our coalitional psychology. The premise of coalitional psychology rest upon the claim that the human mind evolved to handle challenges concerning within-group cooperation and between group conflict (Tooby & Cosmides, 2010). Adaptive followership theory builds upon this approach and suggests that our coalitional minds also regulate whom to follow when the ingroup is faced with challenges related to intra-group coordination or between-group conflict, demonstrating under what circumstances leaders who appear to be dominant are preferred (Laustsen, 2021). Indeed, the perceived dominance of a candidate, either in photos or videos of political debates, has been found in other studies to predict vote intention and even vote share in elections (Gregory & Gallagher, 2002; Chiao, et al., 2008).

Following this coalitional approach, a voter’s recognition of similarity between voter and candidate should be influential on vote choice, as similarity is linked to shared group membership. But is shared group membership sufficient criteria to assess how a leader will deal with challenges related to within-group coordination and between-group competition? Recent research suggests that no, it is not; shared (demographic) group membership is less important for voting decisions than the perception of what kind of social world a candidate wants to bring about (Bai, 2020; Bai 2021). In two studies, Bai (2020; 2021) finds that voters’ ideological preferences and prejudices related to social groups are the most important for voting decisions, regardless of the race or gender of the candidates. So a voter’s recognition of shared preferences for within-group cooperation and between-group competition should be particularly influential on their evaluation of a potential leader.

Indeed, evidence is mounting that voters prefer candidates who will bring about certain group relations in society, particularly as it relates to their own ingroup. Commitment to particular social groups should be relevant to voters when evaluating potential leaders, chiefly among them commitments to the nation and to a political party. Coalitional psychology theories (see Pietraszewski et al., 2015; see also Tajfel & Turner, 1979; Turner & Oakes, 1989) predict that candidate's expression of commitment to the nation versus competing nested sub- or supra-national groups (e.g., English, within British, within European) should influence voters relative to their own commitments to those social groups as well as the historical and political context of those identities. This implies that national identification would be less relevant to voting decisions in contexts where it is uncontentious (e.g., New Zealand – Duckitt & Sibley, 2016), but would be highly influential where allegiance to and sovereignty of the nation are contested, such as the UK in the context of Brexit (Ford & Sobolewska, 2018; Zmigrod et al., 2018).

Contemporary research is increasingly addressing partisanship and party affiliation as a social identity and basis of ingroup identification (West & Iyengar, 2020). Partisanship is one of the foundational concepts in political behaviour. Campbell et al.'s canonical work "The American Voter" introduced the idea that partisanship is not just a set of rational preferences, but a durable attachment and "psychological identification" with a political party (Campbell et al., 1960). Building on this framework, the present study considers partisanship as a form of social identity (Tajfel and Turner, 1979; Mason, 2018) and an important part of an individual's self-concept (Green, Palmquist and Schickler, 2002), which powerfully shapes voters' perceptions, attitudes and behaviour (Green, Palmquist and Schickler, 2002; Mason, 2018; Huddy, Bankert and Davies, 2018). This approach suggests that party affiliation should function like other in-group identifications, produce considerable homophily, and vary with cultural and historical contexts as confirmed in recent research conducted in a number of Western democracies (West & Iyengar, 2020; Butler & Stokes, 1974; Inglehart & Klingemann, 1976; Huddy, Bankert & Davies, 2018).

Contrary to the personalisation of politics narratives, party should still matter for vote choice, for evaluations of candidates, and especially for shaping perceptions of affinity or similarity with candidate. Overall, if this approach is correct, then identification with the ingroup (both the nation and a political party), within-group norms of authority and power (authoritarianism), and preferences for particular allocations of resources and power between groups (egalitarianism), should be the most influential factors of a candidate's profile even accounting for their sociodemographic and familial attributes, such as ethnicity, age, gender, sexual orientation, marital status, and parental status.

In fact, attitudes towards social groups may matter as much as membership in those groups for questions of partisan identity (Kane et al., 2021). Findings from Kane and colleagues (2021) highlight the

influential role of group preferences in political cognition. By means of cross-sectional and experimental studies in the US, they demonstrate that voters' attitudes toward groups based on demographics (e.g. Hispanics and Whites), culture (e.g. Jewish and Christians), and ideology (e.g. feminists and pro-military) determined partisanship regardless of one's own group memberships (Kane, et al., 2021). Attitudes about groups in society, rather than just membership in the group, should therefore be crucial to our evaluation of potential leaders as well.

A central aspect of group-based preferences relates to how they are organised in society, and so social commitments to the authority structure within a group and the power structure between groups should be particularly relevant to voters evaluating potential leaders. The social psychological orientations of authoritarianism (i.e. preferences for authority within the group) and egalitarianism (i.e. preferences for hierarchy or equality between groups) are theorised to shape voters' ideology and have confirmed, strong links to political preferences (e.g. Duckitt, 2001; see also Duckitt & Sibley, 2010b; Jost et al., 2009). Authoritarianism, commonly measure with right-wing authoritarianism (RWA; Altemeyer, 1981) is consistently associated with policy preferences, such as the support for strict prison sentences and the deportation of undocumented immigrants (Duckitt et al., 2010). RWA also predicts support for right-wing and far right-wing parties and candidates (for a meta-analysis, see Van Assche, et al., 2019). Egalitarianism is commonly measured as social dominance orientation (SDO: Pratto et al., 1994; Ho et al., 2015), which is coded in the opposite direction, meaning those high (versus low) in SDO prefer societal structures and relations in which some groups have more power and resources than others. SDO predicts policy preferences that reinforce hierarchy, such as opposition to extending rights and resources to low power groups (such as gay people and immigrants; for a review, see Sidanius et al., 2016). SDO also predicts support for right-wing and far right parties and leaders in the US, UK, and Europe (e.g., Cornelis & Van Hiel, 2015; Womick et al., 2018; for a meta-analysis, see Van Assche, et al., 2019).

In addition to political preferences and vote choice, these group-related commitments also predict personal values, which are confirmed to influence candidate evaluation. A recent conjoint experiment (Weinberg, 2020) found that British voters overall prefer candidates who communicate values of universalism and benevolence, both of which are correlated with egalitarianism (i.e. inversely correlated with SDO; Duriez & Van Hiel, 2002). Signalling values of self-direction, security, and conformity were also influential, all of which are strongly linked with dimensions of authoritarianism (i.e. RWA; Duriez & Van Hiel, 2002). In this study, these basic human values were more influential on vote choice than any demographic attributes, including age, gender, ethnicity, education, occupation, marital-status, regional accent, and religion (Weinberg, 2020), suggesting that the core social commitments those values tap into may drive homophily in voting.

Indeed, this is what researchers find when experimentally testing the relationship between group-based commitments and vote choice. Recent research suggests an important driver of voter homophily is the motivation to elect leaders who share a similar level of commitment to one's ingroup group (i.e. nation), a similar understanding of within-group authority (i.e. authoritarianism), and shared preferences for between-group hierarchy (i.e. egalitarianism; Baron, et al., 2022a). This study observed strong, consistent patterns of homophily based on shared group commitments which evoked national identification, authoritarianism, and egalitarianism, suggesting that we specifically prefer candidates who view society and social groups as we do (Baron, et al., 2022a). However, they did not observe any effect for the gender of the candidate or the interaction between the gender of the candidate and participant, suggesting that homophily by demographics does not always emerge, particularly in the presence of expressed social commitments (Baron, et al., 2022a). Importantly, the authors did not include partisan affiliation as a candidate attribute, a trait that may overwhelm any impact of the above social commitments, or represent an important anchor for group identification in addition to the nation. Those findings extend, but also challenge adaptive followership theory (Lausten, 2021), by arguing that voting and electoral decisions are a way in which we generally enact our preferred resolution to societal questions of authority, power, and resource distribution within and between groups (Baron, et al., 2022a). This approach suggests that candidates' expressions of group membership and identification, within-group norms about authority and power, preferences for between-group distribution of rights and resources should cause voters to identify with and consequently prefer voting for likeminded candidates and repel voters who hold contrasting social commitments.

The present study

This study addresses multiple gaps in the literature. First, it addresses the question of what kind of similarity matters most: whether a candidate shares a group membership, or whether they share a set of commitments to group-related goals. There is little research that considers the effects of candidates' partisan affiliation, sociodemographic identities, and expressions of group orientations on perceived similarity and vote intention. Those that have considered relevant candidate combinations of partisanship, demographics, and ideology have not explored them in terms of homophily and perceived similarity, therefore leaving the coalitional psychology underlying these process understudied.

Second, by conveying candidate demographics through pre-tested images of actual politicians, this study contributes to the literature on realistic methods of studying diverse political candidates in conjoint and discrete choice experiments (see Abrajano, et al., 2018 and López-Ortega, 2021). While survey experiments commonly suffer in terms of external validity, this design recreates the experience of

encountering a candidate for the first time and viewing information commonly presented by candidate on social media, such as a photo, personal information, and ideological statements.

Third, it addresses the question of how important perceptions of candidate similarity are, when considered alongside perception of the core leadership traits of warmth and competence. Despite the common occurrence of survey items using relevant language, there is a considerable lack of research on perceptions of candidates as “similar” or “like you”, meaning no known comparison has been made between candidate perceptions of similarity, warmth, and competence.

Using two choice experiments in the United Kingdom and United States, we posed the following research questions:

1. Which attributes make voters see candidates as similar to themselves and make voters more likely to support a candidate? Homophily between candidates’ and participants’ attributes pertaining to group coordination and the overall organisation of society, such as identification with the ingroup (i.e. the nation and a political party), within group norms of authority and power (authoritarianism), and preferences for allocations of resources and power between groups (egalitarianism), should exert the most influence on perceptions of similarity and vote intention, over and above the effects of shared socio-demographics attributes. Moreover, how does this compare to predictions made by adaptive followership?
2. Which matters more for the evaluation of political candidates, leadership traits or homophily? If voting decisions tap into our coalitional psychology, then perceived similarity should be more strongly correlated with intention to vote for a candidate than perceptions of warmth and competence.

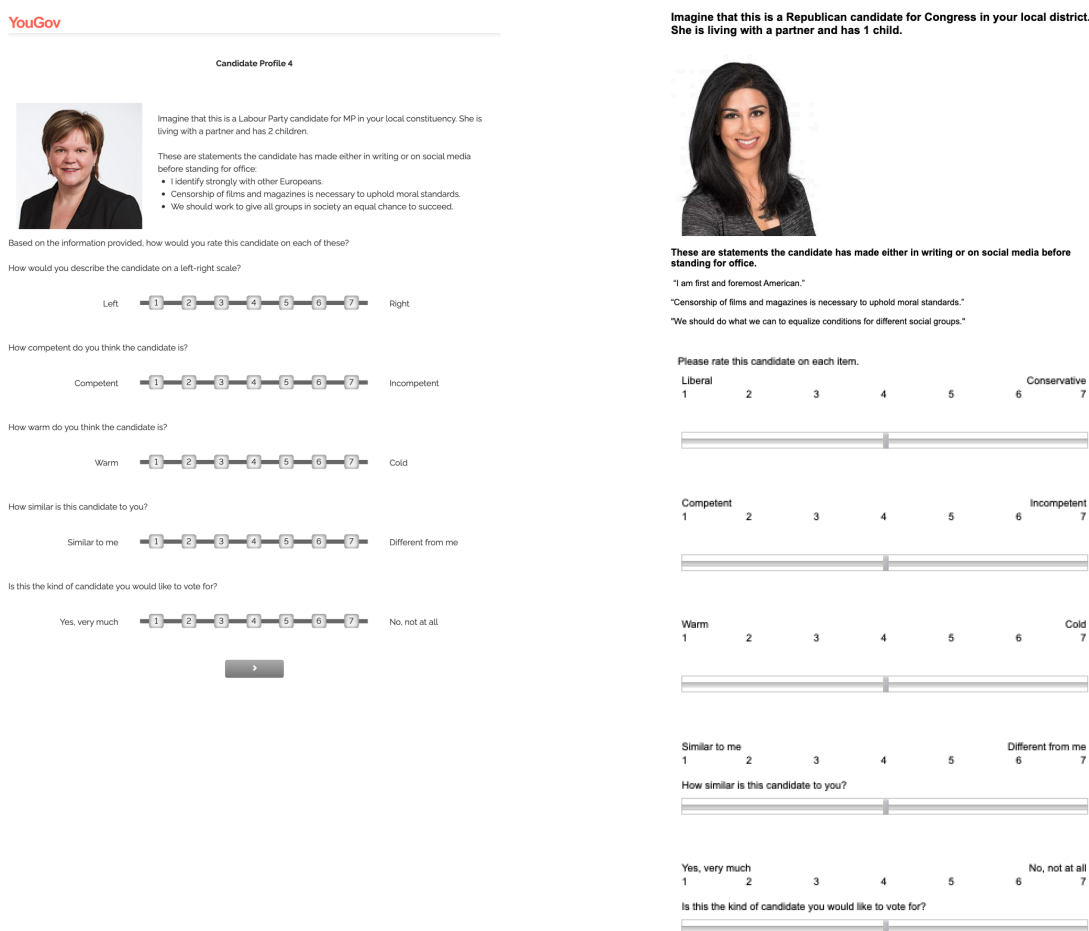
Methods

Design

This study employs two experiments in the UK and US, featuring realistic candidate profiles. The design of these two experiments allows us to vary multiple candidate attributes simultaneously and assess multiple outcome or dependent variables, similar to conjoint designs. Participants were presented with four profiles of hypothetical candidates for Parliament or Congress (see Figure 6) and rated each profile before moving on to the next. Participants were prompted to imagine that the hypothetical candidate profiled below was standing for office in their local constituency/Congressional District.

These profiles included a photo, which was selected from a set of political candidate photos including at least three photo variations for each combination of gender and ethnicity. As the experiments were fielded in the UK and US, we sought out politicians that would be unfamiliar to the participants. The photos included in the profiles were made available by a Canadian political party and were used in their campaign materials. The entire database of photos was rated by a separate sample before the experiment for attractiveness, dominance, and trustworthiness (see Appendix 6), and the photos used in the experiments were matched between gender and ethnicity groupings along those three perceptions to ensure balance between the photo groups.

Figure 8: Sample candidate profiles from the UK and US survey experiments



In addition to the photos, each candidate profile included two sentences: the first indicated their party affiliation, and the second indicated their marital status, sexual orientation, and parental status. Following these, three additional sentences were presented as “statements the candidate has made in writing or on social media before standing for office” (see Appendix 1 for all variations of candidate traits including in the experiments). Each statement in fact corresponded to items used in validated measures of national identification, authoritarianism, and egalitarianism, varied to signal high or low levels in the respective

trait. These statements were either based on the exact language used in the British Election Study or used by prominent survey instruments designed to measure the relevant group-based preference. The statements were randomised and selected without replacement from a list which included multiple statements for each group orientation, thereby addressing potential order effects. Below the candidate profiles, participants were asked to rate each candidate for perceptions of political orientation, similarity, warmth, competence, and vote intention.

Procedure

The UK survey experiment was administered online in October 2021 to participants based in Great Britain via YouGov and following their standard incentive scheme. The UK sample was limited to participants who have responded to a previous wave of the British Election Study (BES), allowing us to match their experiment responses to their previous responses to the relevant BES survey items. The US survey experiment was also administered online in August 2021 to participants based in the United States via Prolific and were compensated at a rate linked to a \$12/hour wage for their survey response. For the US sample, construct measurements and demographics were collected in the same survey as the experiment, and participants were randomly sorted into two groups: one which responded to the experiment first and the other which responded to the construct measurements first with demographic questions always coming at the end⁵. In order to ensure that participants in the US experiment did not see the exact same language in the experiment and in the construct measurements, we used the language from alternative survey items of the relevant constructs, as detailed below.

Participants reviewed four candidate profiles, as detailed above, one by one. They also completed survey questions to measure ingroup identification (European and British in the UK and American in the US), authoritarianism, and egalitarianism, as well as questions about their political preferences and socio-demographics.

Materials

The key materials for these survey experiments include the treatment variables in the experiment, construct measurements, used to assess participants' conditional response to the treatments, and the outcome or dependent variables following the experiment.

⁵ The order of construct measurements and experiment were randomised in order to address concerns about post-treatment measurement versus potential priming effects. Measuring relevant constructs after the experiment could influence how participants responded to the construct measures, while responding to the survey items measuring those constructs could prime how they respond to the experiment. Importantly, this was only a concern for the US sample because the construct measurements were collected separately via the BES in the UK sample.

Candidate profiles

Partisanship affiliation was indexed for candidates by indicating they were either Labour or Conservative candidates for MP in the UK experiment and either Democratic or Republican candidates for Congress in the US experiment.

National identification was indexed for candidates by four statements corresponding to the centrality of British and European identities in the UK experiment and of American identities in the US experiment, based on the national identity measures in the BES and adapted from Leach et al. (2008). Example items are “I strongly identify as American” and “I don’t often think of myself as American” (reverse-coded).

Authoritarianism was indexed for candidates with four statements adapted from the BES, which resemble similar measures of right-wing authoritarianism (such as Bizumic & Duckitt, 2018), e.g., “People who break the law should get stiffer sentences”.

Egalitarianism was indexed for candidates with four statements from the short version of the Social Dominance Orientation 7 (SDO₇) scale (Ho et al., 2015), e.g., “It is unjust to try to make all groups in society equal”.

Candidates’ *sociodemographic attributes*, including ethnicity, gender, and age, were displayed via the candidate photo, while sexual orientation, marital status, and parental status were presented in a sentence, such as “He is gay, married, and has 1 child”.

Participant construct measurements

Partisan affiliation was indexed for participants by using their past vote in their respective countries because it offers a clearer comparison between the UK and US than partisan identification and left-right/liberal-conservative self-placement (see Appendix 2). UK participants were coded -1 for voting for Labour Party, 1 for voting for the Conservative Party, and 0 for those who either did not vote or voted for one of the minor parties in the most recent General Election. The most recent past vote was used for each participant. Vote choice in the 2020 US Presidential Election was used for US participants with support for Joe Biden, the Democratic candidate, being coded as -1, support for Donald Trump, the Republican candidate, being coded as 1, and either not voting or supporting a candidate of another party being coded as 0.

National identification was measured for participants with a self-placement along a 7-point scale for Britishness and Europeanness in the UK and Americanness in the US with options ranging from “Not at all” to “Very strongly”.

Authoritarianism was measured for UK participants with that same scale from the BES and for US participants with Bizumic and Duckitt’s (2018) 6-item Very Short Authoritarianism (VSA) scale, such as “What our country needs most is discipline, with everyone following our leaders in unity”.

Egalitarianism was measured for UK participants with four items about the distribution of resources and rights, e.g. rating “Attempts to give equal opportunities to ethnic minorities” along a 5-point scale from “Gone much too far” and “Not gone nearly far enough”. Egalitarianism was measured among the US participants with six items from Sidanius and Pratto’s (1999) measure of SDO.

Participants’ *sociodemographic attributes*, including ethnicity, gender, age, sexual orientation, marital status, and parental status were gathered via the BES for the UK participants and collected at the end of the survey for the US participants.

Dependent variables

Perceptions of candidate traits were each measured with 7-point scales. Perceived similarity was measured with a scale from “Different from me” to “Similar to me”. Perceived warmth was measured with a scale from “Cold” to “Warm”. Perceived competence was measured with a scale from “Incompetent” to “Competent”.

Vote intention was measured with an item asking “Is this the kind of candidate you would like to vote for?” and responses along a 7-point scale from “No, not at all” to “Yes, very much”.

Perceptions of left-right ideology were also measured in this experiment, but not employed for the present study.

Sample

The nationally representative sample of 1,634 participants based in Great Britain (55% female and mean age = 52, with ages from 18 to 86) were selected from previous respondents to Wave 14 of the British Election Study (BES), in order to enable matching their experiment responses to their previously recorded BES responses. As these participants may have also participated in additional waves of the BES, their responses to relevant construct measures were collected one to seven years prior to this

survey experiment (see Fieldhouse et al., 2021). If multiple construct measurements were available for a given participant, we used the most recent measurement. This sample was weighted using YouGov's population weights. All 1,634 participants reviewed four candidate profiles, resulting in 6,536 observations. Of the full sample, 1,613 participants (98.6% of full sample) completed all relevant items in previous waves of the BES. Missing items were imputed at the mean for the remaining 21 (1.4%) participants with missing items.

The sample of 802 participants from the United States is nationally representative regarding gender, ethnicity, and age, but included a disproportionately high number of Democratic voters: 65% of the sample voted for Joe Biden in 2020 compared to 51% in the American population. Analysis thus employed sample weights based on stated 2020 vote. The sample was narrowed to 797 participants who responded to all necessary survey items, resulting in the ratings of 3,188 candidate profiles. For all subsequent analysis, the unit of observation is candidate profile rating.

Analysis

The present study is theoretically focused on similarity and patterns of homophily, and so the primary analysis of the experiments focuses on whether and how the candidates' attributes interact with the participants' attributes in shaping perceptions of similarity and vote intention. We created interaction terms for each of the candidate's and participant's attributes (i.e. gender, ethnicity, etc) and fit a linear regression model with those interacted terms, the un-interacted treatment (candidate) terms, and the participants' attribute terms, and we estimated an average effect for each candidate attribute conditional on the participant's corresponding attribute.

The treatment terms for candidate statements were generated by coding statements expressing low levels of authoritarianism, egalitarianism, and national identification as -1, high levels as 1, and 0 when that type of statement did not appear (i.e. in the UK experiment where only European or British identification statements appeared in each candidate profile). Candidates' party affiliation was coded -1 for Labour or Democratic candidates and 1 for Conservative or Republican candidates. Candidates' ages ranged from 22 to 68 and reflect the actual age of the candidates featured in the profile photos. Candidate gender was coded -1 for male and 1 for female. Categories of candidate ethnicity were coded as dummy variables (1, -1) for Black, South Asian, and White candidates. Candidate sexual orientation was coded -1 for straight and 1 for gay and lesbian candidates. We included two variables for candidates' parental status: a binary variable for having (1) or not having (-1) children and a continuous variable for number of children from 0 to 3. Categories of marital status were coded as dummy variables (1, -1) for married, single, divorced, and lives with partner.

Analysis of the treatment effects without consideration of the participants' attributes cannot reveal the way in which participants' orientations or identities condition their reaction to particular treatment terms. This step of analysis was to investigate which shared traits increased participants' perceptions of similarity with the candidate. This directly addresses our research question of whether candidates' signals of group-based commitments—authoritarianism, egalitarianism, national identification, and party affiliation—are the most influential on shaping perceptions of similarity and vote intention.

To achieve this, we interacted the candidate treatment terms with the corresponding attribute for each participant (coded in the same manner as the candidates' attributes). We then fit linear regression models with the treatment terms for the candidates' attributes, variables measuring the participants' attributes, and the interactions between the two.

The second phase of analysis presented below compares the correlations between vote intention and those three perceptions. We then fit a linear regression model with perceptions of similarity, warmth, and competence to investigate which has the strongest association with vote intention, controlling for the other perceptions.

Results

Influences on perceptions of similarity and vote intention

First, we considered the effect of the experiment treatments on perceived similarity and vote intention as conditioned by participants' corresponding trait.

This analysis revealed a similar set of results across the UK and the US. Shared levels of authoritarianism, egalitarianism, national identification, and partisan affiliation between the candidate and participant were consistently predictive of greater perceptions of similarity with the candidate (see Figure 7) and vote intention (see Figure 8). None of the interactions of demographic attributes were significant at conventional levels, suggesting that shared gender, ethnicity, sexuality, marital status, parental status, and age did not increase perceived similarity between participant and candidate when presented with group commitment statements nor did influence vote intention. Figures 7 and 8 present the estimated coefficients for the interactions detailed above; however, the model which generated these coefficients also included the base terms of these interactions, and the tables for these models can be found in Appendices 3 and 4.

Figure 9: Perceived similarity regression model coefficients for the interaction terms between candidates' and participants' attributes, 95% Confident Intervals

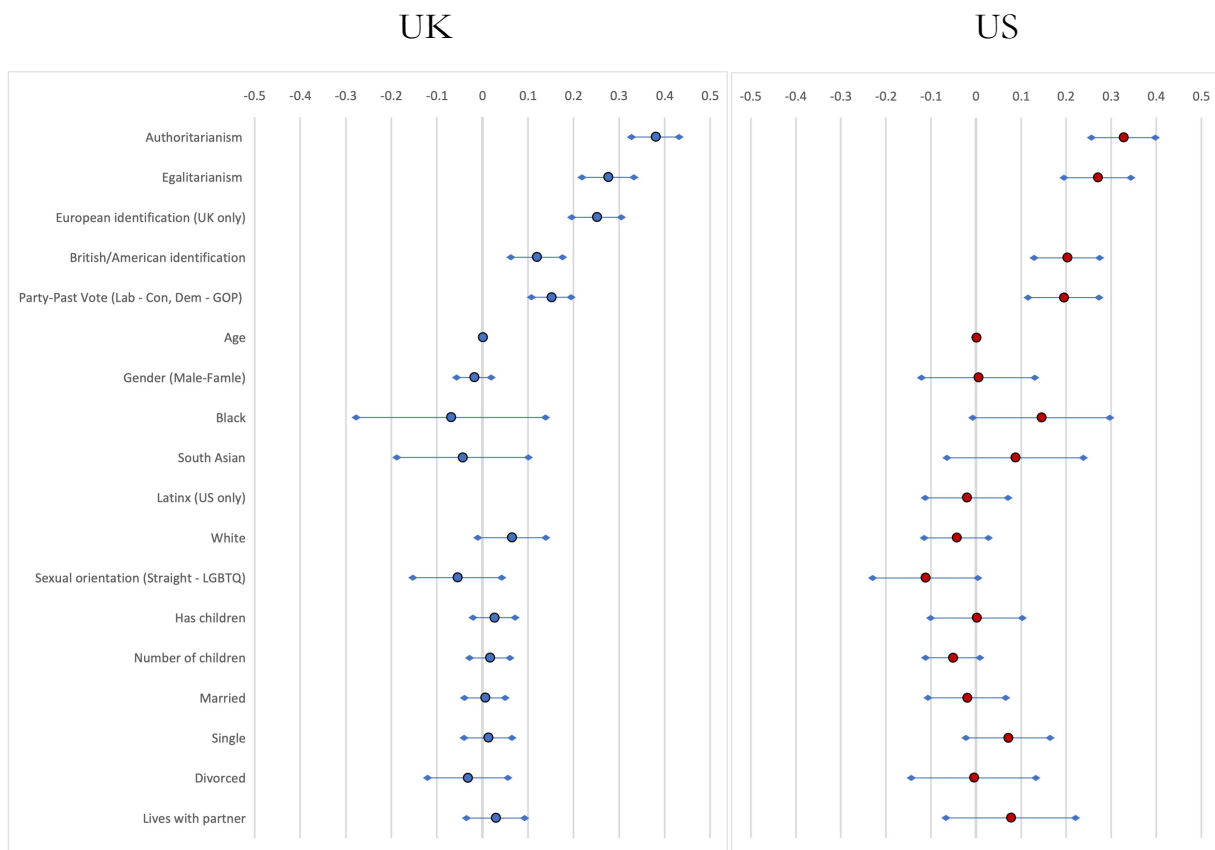


Figure 10: Vote intention regression model coefficients for the interaction terms between candidates' and participants' attributes, 95% Confident Intervals

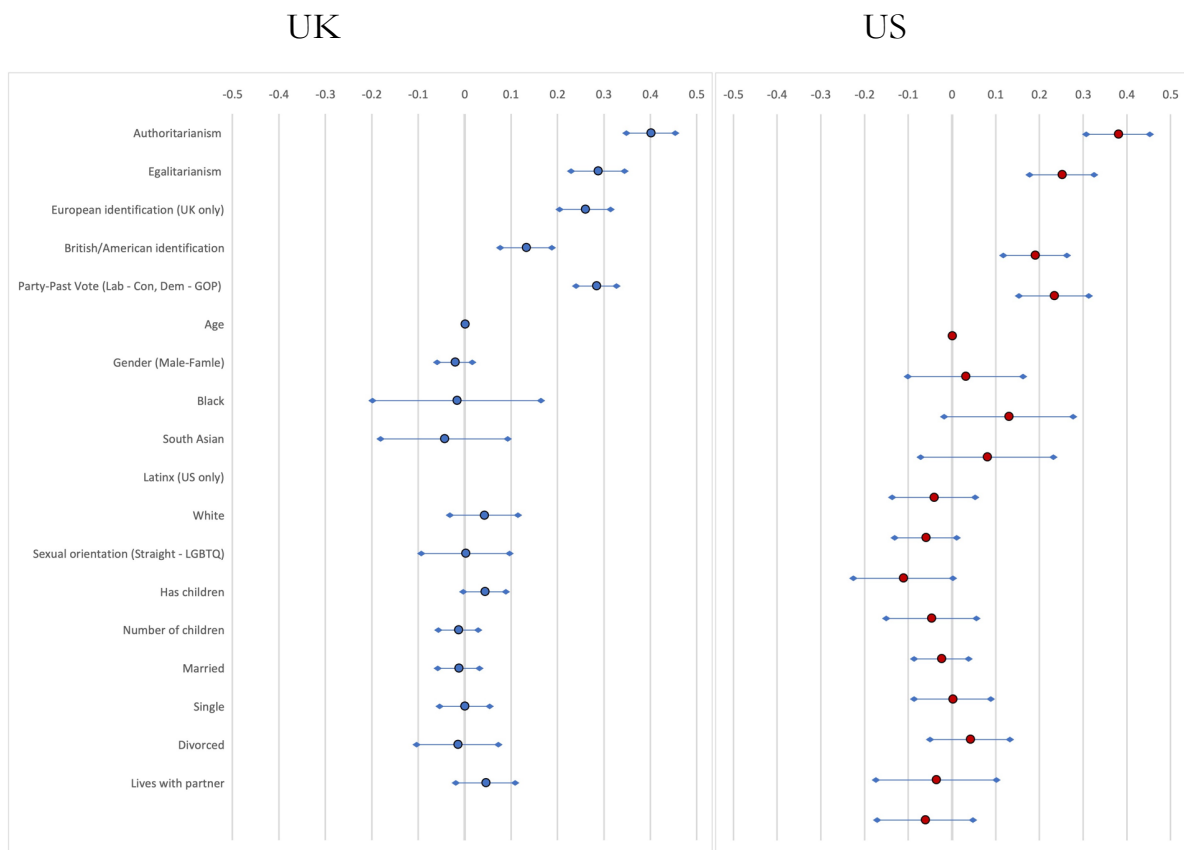
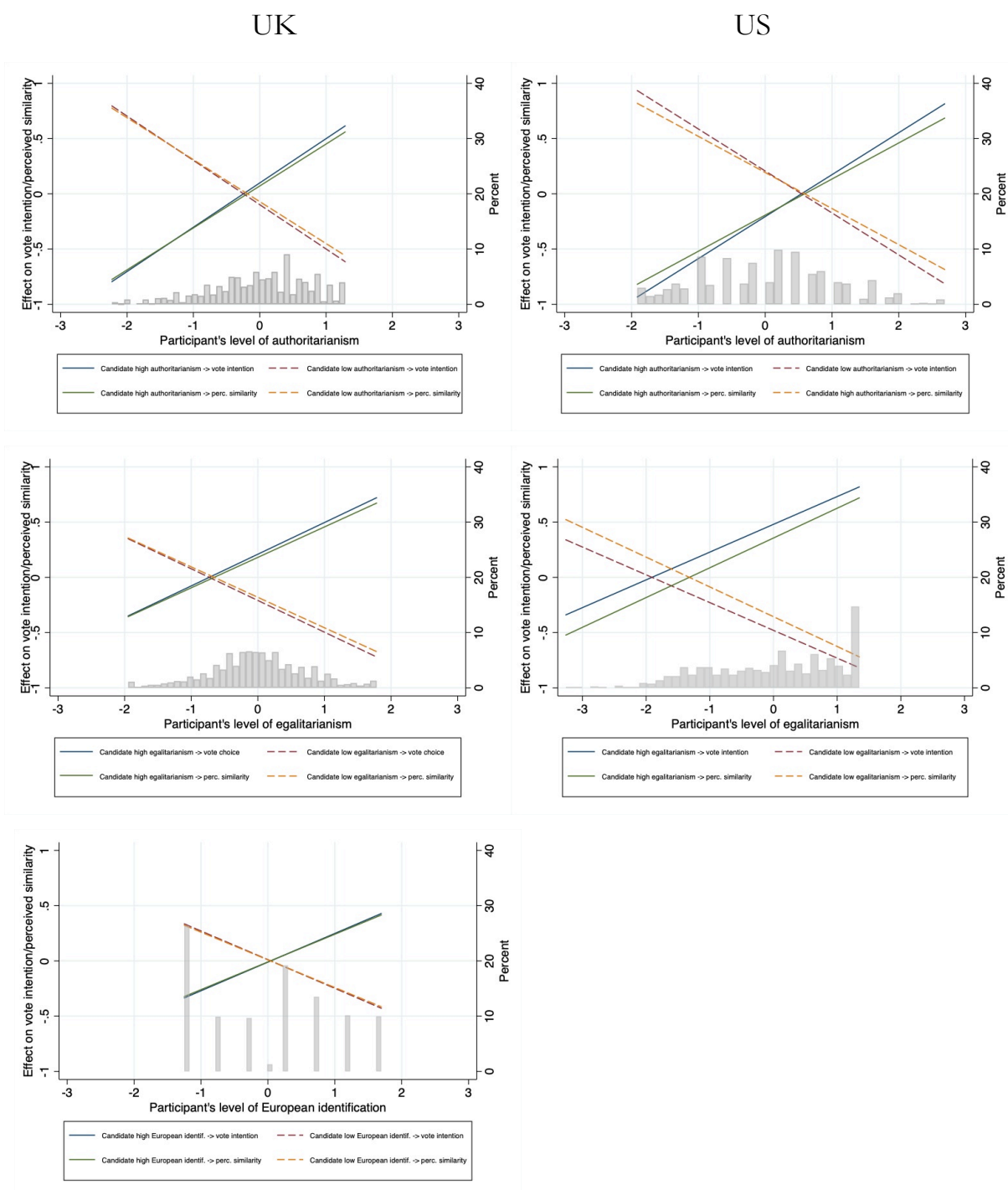
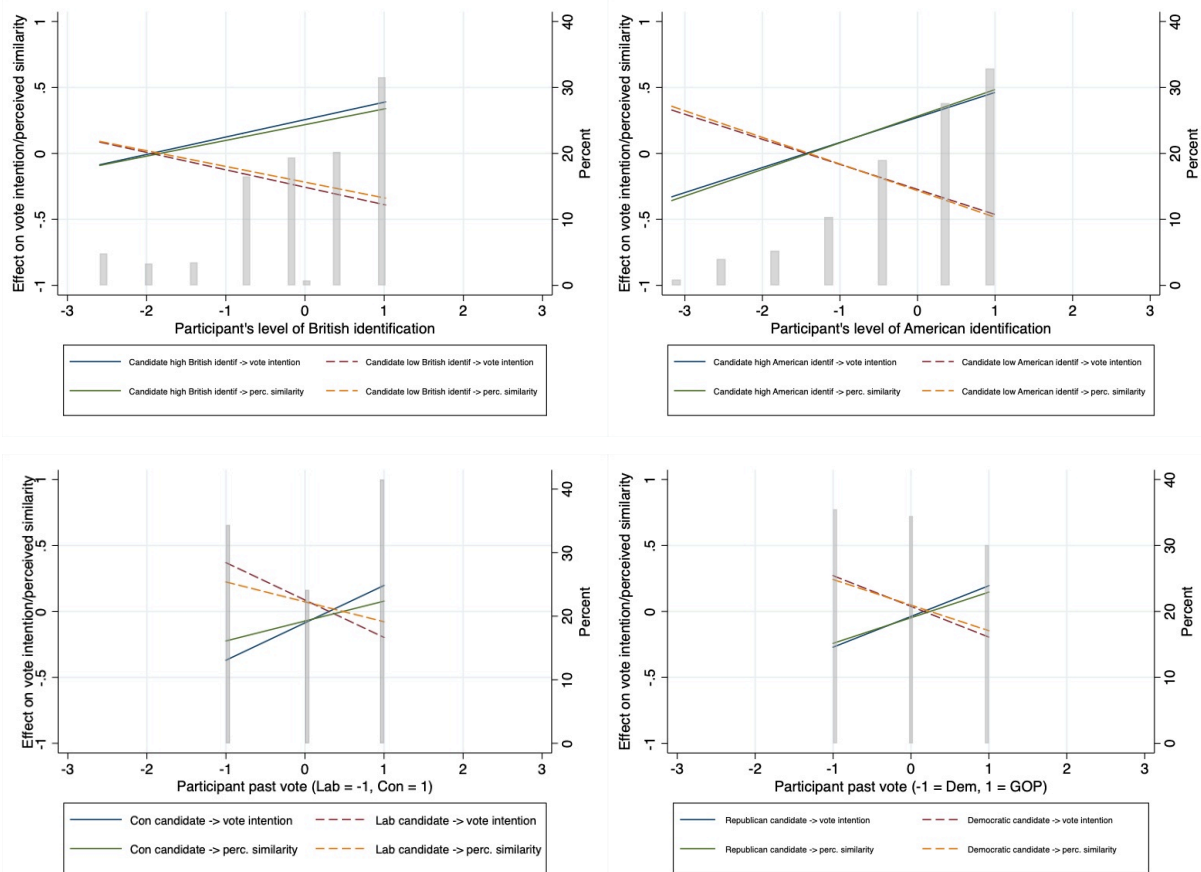


Figure 9 presents additional illustration of the interactions that significantly predicted perceptions of similarity and vote intention. These graphs illustrate the consistent and strong differential effects on perceptions of similarity and vote intention produced by participants' levels of authoritarianism, egalitarianism, national identification, and partisan affiliation as they related to corresponding attributes signalled by the candidate. The graphs in Figure 9 demonstrate that shared social commitments condition participants' reactions to the corresponding treatments in nearly identical ways.

Figure 11: Differential effects of candidate attribute treatment terms by participant attribute measurements for perceptions of similarity and vote intention





For both of these graphs illustrating the differential effects of candidate's party affiliation on participants based on their past vote, participants who either did not vote or who voted for a candidate of a minor party were coded as 0 in order to isolate the specific effects of affiliation with or previous support for the two primary parties.

Adaptive followership prediction of perceived dominance interacting with SDO

Lastly, we tested a prediction made in the adaptive followership literature: candidates who are perceived to be more dominant will be preferred by voters who are low in egalitarianism (or high in social dominance orientation; SDO; see Lausten, 2021). To test this prediction, we obtained ratings of the candidate photos from a separate sample of US-based respondents (N=112), who rated each photo (without the additional information included in the candidate profiles) for dominance, attractiveness, and trustworthiness based solely on the photo presented (see Appendix 6). The dominance rating for each candidate was then appended to the dataset including the experiment responses.

This analysis is limited to the US sample because the egalitarianism measure employed in that dataset allows for a clearer comparison to the adaptive followership literature. Items from the SDO₇ scale were collected and reverse coded to measure egalitarianism for the US participants. To maintain continuity with the previous studies, we will continue to use the term egalitarianism and the variable coded in that direction. As with previous results, the unit of analysis is candidate profile ratings (N=3,188).

We fit two linear regression models, one predicting perceptions of similarity and one predicting vote intention. Both models include dominance ratings of the candidates, participant egalitarianism, an interaction between those two, treatment variable of candidate egalitarianism, and an interaction between participant and candidate egalitarianism. The correlation coefficients as well as the standardised coefficients are presented in Table 14.

In both models, the interaction between candidate dominance and participant egalitarianism is not significant, but the interaction between candidate and participant egalitarianism is, meaning those who are lower in egalitarianism do not perceive candidates who are more physically dominant as similar to them nor are they more enthusiastic to vote for them (see Table 14). Perceptions of similarity and vote intention are both better explained by the interaction between candidate and participant egalitarianism as well as the treatment variable for candidate egalitarianism (see Table 14).

Table 14: Linear regression models for perceived similarity and vote intention, comparing the hypothesis of the present study and adaptive followership

	<i>Perceived similarity</i>			<i>Vote intention</i>		
	Coeff.	Standard error	Standardised coefficient	Coeff.	Standard error	Standardised coefficient
<i>Candidate dominance rating * participant egalitarianism interaction</i>	0.01	0.09	0.03	-0.01	0.09	-0.01
<i>Candidate dominance rating</i>	-0.08	0.09	-0.02	-0.14	0.09	-0.03
<i>Candidate egalitarianism * participant egalitarianism interaction</i>	0.26***	0.04	0.15***	0.24***	0.04	0.13***
<i>Candidate egalitarianism treatment</i>	0.35***	0.04	0.19***	0.47***	0.04	0.25***
<i>Participant egalitarianism</i>	-0.07	0.39	-0.04	-0.02	0.38	-0.01
<i>Constant</i>	3.77***	0.36		3.99***	0.36	
<i>R²</i>	0.05			0.08		

*p<0.05, **p<0.01, ***p<0.001

Perceptions of warmth and competence versus perceptions of similarity as predictors of vote intention

Next, we assessed the strength of association between participants' perceptions of the candidate's warmth, competence, and similarity with the participant and participants' vote intention for that candidate. Table 15 presents the correlation matrix for vote intention, perceptions of similarity, warmth, and competence within our samples from the UK and US. In both samples, all three perceptions are positive and significantly associated with vote intention, and the strongest correlation among these is between vote intention and perceptions of similarity: 0.76 in the UK and 0.78 in the US.

Table 15: Correlation matrix for vote intention, perceptions of similarity, warmth, and competence

<i>Perceptions of:</i>	<i>UK, n = 6,544</i>				<i>US, n = 3,188</i>			
	Vote intention	Similarity	Warmth	Competence	Vote intention	Similarity	Warmth	Competence
Similarity	0.76***	1.00			0.78***	1.00		
Warmth	0.61***	0.58***	1.00		0.65***	0.62***	1.00	
Competence	0.55***	0.51***	0.68***	1.00	0.65***	0.62***	0.68***	1.00

*p<0.05, **p<0.01, ***p<0.001

Next, we fit a linear regression model to assess the relative ability for perceptions of similarity, warmth, and competence to predict vote intention, controlling for the other two perceptions. The coefficients from these models are presented in Table 16. In both samples, all three are positively and significantly correlated with vote intention, and again, perceived similarity had the strongest predictive power ($\beta=0.59$ in the UK and $\beta=0.58$ in the US) considerably above the correlation coefficients of perceived warmth ($\beta=0.21$ in the UK and $\beta=0.23$ in the US) and perceived competence ($\beta=0.16$ in the UK and $\beta=0.22$ in the US).

Thus, in both analyses, perceptions of similarity were more strongly associated with vote intention than perceptions of warmth or competence.

Table 16: Vote intention regression model coefficients

<i>Perceptions of:</i>	<i>UK, n = 6,544</i>				<i>US, n = 3,188</i>			
	Coef.	Std error	Lower CI	Upper CI	Coef.	Std error	Lower CI	Upper CI
<i>Similarity</i>	0.59***	0.01	0.58	0.61	0.58***	0.01	0.55	0.61
<i>Warmth</i>	0.21***	0.01	0.18	0.23	0.23***	0.02	0.19	0.26
<i>Competence</i>	0.16***	0.01	0.14	0.19	0.22***	0.02	0.18	0.25
<i>Constant</i>	-0.05	0.04	-0.13	0.03	-0.35***	0.06	-0.47	-0.24
R²	0.62				0.68			

*p<0.05, **p<0.01, ***p<0.001

It is fair to question whether or not the homophily based on group commitments observed in these studies are actually caused by the perceptions of those candidate traits. The design of this experiment does not allow us to causally interpret a model which controls for candidate trait perceptions as well as the treatment terms and interactions, but the preliminary results presented in Appendix 5 indicate that perceptions of similarity (but not warmth and competence) accounts for some, but not all of the variation explained by the interactions of shared group commitments.

Discussion and conclusion

Perceptions of similarity between a voter and candidate are shaped by our core preferences for the kind of world one wants to bring about rather than driven merely by visible demographic characteristics such as ethnicity and gender, or standard identity groupings such as sexual orientation, marital status or parental status. Our findings demonstrated that perceptions of similarity in a political context are most strongly driven by shared commitments pertaining to group membership, understandings of authority within groups, and preferences for distribution of rights and resources between groups. This tells us that for voters, ‘my kind of leader’ is seen to be the one who is committed to the same groups as me, and to the same ways of coordinating intra- and inter-group relations.

This is a further demonstration of the power of shared social commitments in the case of national identity, authoritarianism, and egalitarianism, while extending it to include party affiliation, and directly comparing it to demographic sources of homophily. It thus contributes to the growing literature exploring partisanship and party affiliation as a social identity and group orientation (see Bankert, 2021).

We also addressed the question of what matters more for candidate evaluations: leadership traits or voter homophily? Does it predict vote choice over and above perceptions of leadership traits such as warmth and competence? A coalitional psychology approach suggests that we don't judge candidate traits in a vacuum – we do so in the context of salient group memberships and deeply held commitments in relation to how group living should be coordinated. We thus predicted that perceived similarity should be more strongly correlated with intention to vote for a candidate than perceptions of warmth and competence, and our results are consistent with that prediction. These findings highlight the strong positive relationship between perceived similarity and vote choice, suggesting that voters are looking for 'my kind of leader'. One potential limitation of the analysis to address this question, however, is the possibility of order effects. Participants responded to the item measuring perceived similarity before the item for vote intention, and so if participants simply tend to give similar responses to adjacent items in this specific context then that would limit what we can infer from this analysis. Further work on perceived similarity in comparison with other candidate trait perceptions should address the potential of order effects.

To return to the personalisation of politics debate, our results suggest that it is not a question of individuals versus issues, as it turns out that the most influential attributes of politicians are themselves ideological, concerning fundamental commitments to social groups and how they should be organised. Our results indicate that voters have a tendency towards similarity, but not just any similarity (e.g. socio-demographics or physical appearance; Cutler, 2002; Schwarz & Coppock, 2020; Bailenson et al., 2008). Voters are most influenced by similarity in core group-based commitments. Given our results, we argue that orientations related to signals of group membership, understandings of within group authority, and preferences for between group hierarchy are the key signifiers of similarity in the political realm. Voters are assessing whether a candidate would enact their preferences for the organisation and function of society, and they place higher importance on the available information which indicates shared group membership, shared attitudes towards power and authority, and shared preference for hierarchy.

This research also has implications for the partisanship literature. While recent research on partisanship, increasingly adopts this "expressive" conception of partisanship, an alternative strand of research has advanced the "instrumental" model of partisanship (Iyengar et al., 2019; for reviews, see Huddy, et al., 2018 and Bankert, 2021). This "instrumental" model understands partisanship as a rational, utility-maximising information aggregation process rather than an identity (Fiorina, 1981). In line with this, research from the US has argued that partisanship has become increasingly tied to issue positions and ideology (Bafumi & Shapiro, 2009). Rather than being "intoxicated partisans", voters' preferences over policy issues matter and can outweigh the pull of partisan loyalties (Fowler, 2020; Schonfeld & Winter-Levy, 2021). However, empirical work on partisanship has also produced strong evidence in favour of

the expressive model of partisanship: partisanship is more stable than issue preferences (Bartels, 2002b; Green, et al., 2002), and has been found to have strong expressive rather than purely utility-maximising features (Dias & Lelkes, 2021; Huddy, et al., 2018).

Our group-based approach and results offer a potential reconciliation between these two conceptions of partisanship. Partisanship, functioning as a social identity, connects with the “expressive” concept (see West & Iyengar, 2020; Butler & Stokes, 1974; Inglehart & Klingemann, 1976; Huddy, et al., 2018), while group-commitments about ingroup authority and between-group power/resources distribution connect with the “instrumental” model’s focus on issue positions and ideology (e.g. Baumer, et al., 2003). Our approach contends that both are important for political preferences, yet contextualises them vis-à-vis their function in our coalitional psychology. Moreover, these results indicate that not only should partisanship be considered with regards to its group-based function, but that the social commitments of authoritarianism, egalitarianism, and national identifications should be considered as equally important influences on voting decisions.

As Huddy and colleagues (2015) suggest, both instrumental and expressive theories of partisanship may explain vote choice “at different times, under differing conditions, and among distinct segments of the electorate” (pp. 2). While our approach focused on group-based social commitments does not suggest the contexts or conditions, we do suggest that the relative level of different social commitments are key predictors of which voters will deploy strongly held social commitments to make a voting decision.

Lastly, regarding the adaptive followership literature, our findings indicate that preferences for egalitarianism or dominance do indeed shape the way we assess candidates and which kind of leaders we prefer. However, our findings appear to challenge a recent prediction from adaptive followership theory (see Lausten, 2021), which predicts that those high in SDO or low in egalitarianism will prefer more dominant leaders. We find that is not the cases, and in fact, voters see candidates as more similar to them and are more likely to vote for them when the candidate shares their preferences for group-based dominance or egalitarianism, but not simply because they are physically dominant.

This study contributes to the mounting evidence that cognition and behaviour in the political realm are strongly influenced by the social psychological attributes developed to cope with within group coordination and between group competition. These social commitments not only influence how we perceive candidates, whether or not we identify with them, but also whether or not we intend to vote for them, illustrating that voters are seeking out potential leaders who share their preferences for the structure of society and will shape society in that image.

Appendices

Appendix 1: Candidate attribute variations

Table 17: Candidate attribute variations

CATEGORY	VARIATION	TEXT
PARTY		Conservative/Republican Party
		Labour/Democratic Party
MARTIAL STATUS		Married
		Single
		Committed partner
PARENTAL STATUS		Divorced
		No children
		1 child
		2 children
SEXUAL ORIENTATION		3 children
		LGBTQ
		Straight
NATIONAL IDENTITIES	High British	“I am first and foremost British/American.”
		“Being British/American is very important to me.”
	High European	“I strongly identify as European.”
	Low British	“I identify strongly with other Europeans.”
		“Being British/American isn’t the most important part of my identity.”
		“I rarely think of myself as British/American.”
	Low European	“I don’t think of myself as European.”
AUTHORITARIANISM		“Being European is not important to who I am.”
	High	“Censorship of films and magazines is necessary to uphold moral standards.”
		“People who break the law should get stiffer sentences.”
	Low	“Schools should not focus on teaching children to obey authority.”
EGALITARIANISM		“There are no crimes for which the death penalty is an appropriate sentence”
	High	“We should work to give all groups in society an equal chance to succeed.”
		“We should do what we can to equalise conditions for different social groups.”
	Low	“It is unjust to try to make all groups in society equal.”
	“Equality of all social groups should not be our primary goal.”	

Appendix 2: Comparison of partisanship, left-right ideology, and past vote interactions

The table below present two models including the interactions between candidate’s party and participants partisanship, left-right ideology, and past vote. This shows that the interaction between candidate party affiliation and participant’s past vote has the strongest standardized coefficient among those three interactions in the models for both countries. This suggests that the interaction between candidate party and participant past vote is the best option of the three for assessing homophily based on party affiliation.

Table 18: Linear regression models to compare partisanship, left-right ideology, and past vote interactions

	UK					US				
	Coefficient	Standard		p-value	Beta	Coefficient	Standard		p-value	Beta
		Error	t				Error	t		
Authoritarianism	0.38	0.03	14.38	0.000	0.18	0.32	0.04	8.85	0.000	0.18
Egalitarianism	0.28	0.03	9.49	0.000	0.12	0.27	0.04	7.04	0.000	0.15
British/American identification	0.12	0.03	4.23	0.000	0.05	0.20	0.04	5.34	0.000	0.12
European identification (UK only)	0.25	0.03	9.17	0.000	0.11					
Party-Past Vote (Lab— Con, Dem— GOP)	0.08	0.03	2.78	0.005	0.04	0.02	0.02	1.13	0.258	0.04
Party— Left- Right	0.12	0.03	4.83	0.000	0.07	0.12	0.07	1.84	0.066	0.05

Candidate specific	Party--										
	Partisanship	0.00	0.00	1.71	0.087	0.02	0.01	0.05	0.12	0.906	0.00
	Age	0.00	0.00	1.82	0.069	0.11	0.00	0.00	0.31	0.756	0.03
	White	0.28	0.15	1.86	0.063	0.08	-0.08	0.19	-0.44	0.659	-0.02
	Black	-0.27	0.42	-0.65	0.516	-0.01	0.01	0.26	0.04	0.971	0.00
	South Asian	-0.21	0.29	-0.73	0.465	-0.01	0.58	0.31	1.85	0.064	0.05
	Latinx-South										
	Asian (US only)						0.35	0.31	1.13	0.257	0.03
	Gender (Male-										
	Famle)	-0.02	0.02	-0.97	0.330	-0.01	-0.04	0.04	-1.20	0.230	-0.02
	Sexual										
	orientation										
	(Straight--										
	LGBTQ)	-0.06	0.05	-1.12	0.263	-0.03	-0.11	0.06	-1.93	0.054	-0.05
	Has children	0.02	0.02	1.00	0.316	0.01	0.00	0.05	0.00	0.998	0.00
	Number of										
	children	0.02	0.02	0.71	0.476	0.02	-0.05	0.03	-1.69	0.091	-0.08
	Married	0.03	0.09	0.33	0.744	0.01	-0.08	0.18	-0.46	0.648	-0.01
	Single	0.05	0.11	0.42	0.674	0.01	0.28	0.19	1.47	0.141	0.04
	Divorced	-0.12	0.18	-0.65	0.515	-0.01	-0.03	0.29	-0.09	0.931	0.00
Lives with											
partner	0.12	0.13	0.94	0.347	0.01	0.33	0.29	1.11	0.267	0.03	
Candidate											
authoritarianism	0.07	0.02	3.85	0.000	0.05	-0.19	0.04	-5.31	0.000	-0.11	
Candidate											
egalitarianism	0.18	0.02	9.20	0.000	0.11	0.36	0.04	9.83	0.000	0.20	

Candidate										
British/American										
identification	0.22	0.03	8.04	0.000	0.10					
Candidate										
European										
identification	-0.01	0.03	-0.51	0.612	-0.01	0.28	0.04	7.65	0.000	0.15
Candidate Party										
(Lab— Con,										
Dem— GOP)	-0.07	0.02	-3.46	0.001	-0.04	-0.04	0.04	-1.01	0.314	-0.02
Candidate age	-0.01	0.01	-2.42	0.016	-0.10	-0.01	0.01	-1.30	0.195	-0.08
Black candidate	-0.04	0.05	-0.84	0.400	-0.01	0.31	0.10	3.08	0.002	0.08
South Asian										
candidate	0.00					0.00				
White candidate	-0.22	0.15	-1.53	0.127	-0.07	0.20	0.18	1.13	0.259	0.05
Candidate gender										
(Male— Female)	0.04	0.02	1.91	0.056	0.02	0.00	0.04	0.11	0.914	0.00
Candidate sexual										
orientation										
(straight—										
LGBTQ)	0.05	0.05	1.08	0.279	0.03	0.06	0.06	0.99	0.320	0.03
Candidate has										
children	0.01	0.04	0.17	0.861	0.00	0.06	0.07	0.85	0.393	0.03
Candidate										
number of										
children	-0.02	0.03	-0.60	0.551	-0.01	0.03	0.07	0.47	0.638	0.02
Married										
candidate	0.00					0.00				
Single candidate	0.00	0.08	-0.06	0.954	0.00	-0.08	0.16	-0.51	0.612	-0.02

Participant attributes	Divorced candidate	0.05	0.07	0.76	0.450	0.01	-0.14	0.14	-0.95	0.342	-0.03
	Candidate lives with partner	0.03	0.07	0.46	0.647	0.01	-0.20	0.15	-1.35	0.177	-0.05
	Participant authoritarianism	-0.03	0.03	-1.07	0.284	-0.02	-0.01	0.05	-0.19	0.849	-0.01
	Participant egalitarianism	0.09	0.04	2.40	0.017	0.04	-0.04	0.05	-0.77	0.442	-0.02
	Participant British/American identification	0.08	0.02	3.54	0.000	0.05					
	Participant European identification	0.01	0.02	0.46	0.643	0.01	0.07	0.04	1.64	0.102	0.04
	Participant past vote (Lab— Con, Dem— GOP)	-0.05	0.03	-1.71	0.086	-0.03	0.00	0.02	0.13	0.896	0.00
	Participant left-right ideology	0.05	0.03	1.60	0.109	0.03	-0.13	0.06	-2.20	0.028	-0.07
	Participant partisanship (Lab— Con, Dem-GOP)	0.00	0.00	-0.07	0.943	0.00	-0.03	0.07	-0.44	0.657	-0.01
	Participant age	-0.02	0.00	-4.70	0.000	-0.23	-0.01	0.01	-0.96	0.335	-0.08
	Black participant	0.51	0.20	2.57	0.010	0.03	0.69	0.28	2.48	0.013	0.13
	White participant	0.07	0.10	0.64	0.523	0.01	0.76	0.25	3.00	0.003	0.19
	South Asian participant	0.35	0.18	1.93	0.053	0.04	0.37	0.28	1.30	0.193	0.06

Latinx participant (US only)						0.50	0.30	1.69	0.091	0.07
Participant gender (male--female)	0.02	0.02	1.11	0.268	0.01	-0.05	0.04	-1.40	0.163	-0.03
Participant sexual orientation (straight--LGBTQ)	0.03	0.05	0.57	0.566	0.01	0.03	0.07	0.43	0.669	0.01
Participant has children	0.08	0.03	2.73	0.006	0.05	0.11	0.08	1.49	0.136	0.06
Participant number of children	-0.03	0.05	-0.63	0.527	-0.02	0.00	0.07	0.00	0.999	0.00
Married participant	0.13	0.07	1.93	0.053	0.04	0.25	0.33	0.76	0.449	0.07
Single participant	0.05	0.08	0.63	0.530	0.01	0.05	0.33	0.16	0.875	0.01
Divorced participant	0.21	0.10	2.04	0.042	0.03	0.31	0.35	0.87	0.383	0.05
Participant lives with partner	0.17	0.08	2.07	0.038	0.04	0.37	0.36	1.03	0.303	0.06
Constant	4.25	0.27	15.47	0.000	.	3.22	0.62	5.22	0.000	.
R2	0.17					0.13				

Appendix 3: Tables for perceived similarity models with all variables

Table 19: Linear regression models predicting perceived similarity including all variables

	UK						US					
	Coefficient	Standard		p-value	Lower	Upper	Coefficient	Standard		p-value	Lower	Upper
		Error	t		95% CI	95% CI		Error	t		95% CI	95% CI
Authoritarianism	0.38	0.03	14.26	0.00	0.33	0.43	0.33	0.04	9.03	0.00	0.26	0.40
Egalitarianism	0.28	0.03	9.43	0.00	0.22	0.33	0.27	0.04	7.13	0.00	0.20	0.34
European identification (UK only)	0.25	0.03	9.05	0.00	0.20	0.30						
British/American identification	0.12	0.03	4.14	0.00	0.06	0.18	0.20	0.04	5.44	0.00	0.13	0.27
Party-Past Vote (Lab-- Con, Dem-- GOP)	0.15	0.02	6.80	0.00	0.11	0.19	0.19	0.04	4.83	0.00	0.12	0.27
Age	0.00	0.00	1.79	0.07	0.00	0.00	0.00	0.00	0.41	0.69	0.00	0.00
Gender (Male-Female)	-0.02	0.02	-0.96	0.34	-0.06	0.02	0.00	0.06	0.07	0.94	-0.12	0.13
Black	-0.07	0.11	-0.66	0.51	-0.28	0.14	0.14	0.08	1.86	0.06	-0.01	0.30
South Asian	-0.04	0.07	-0.59	0.55	-0.19	0.10	0.09	0.08	1.12	0.26	-0.06	0.24
Latinx-South Asian (US only)							-0.02	0.05	-0.44	0.66	-0.11	0.07
White	0.06	0.04	1.69	0.09	-0.01	0.14	-0.04	0.04	-1.21	0.23	-0.11	0.03
Sexual orientation (Straight-- LGBTQ)	-0.06	0.05	-1.11	0.27	-0.15	0.04	-0.11	0.06	-1.90	0.06	-0.23	0.00
Has children	0.03	0.02	1.08	0.28	-0.02	0.07	0.00	0.05	0.02	0.99	-0.10	0.10
Number of children	0.02	0.02	0.71	0.48	-0.03	0.06	-0.05	0.03	-1.69	0.09	-0.11	0.01
Married	0.01	0.02	0.23	0.82	-0.04	0.05	-0.02	0.04	-0.46	0.64	-0.11	0.07

Candidate profile treatments	Single	0.01	0.03	0.46	0.65	-0.04	0.07	0.07	0.05	1.49	0.14	-0.02	0.16
	Divorced	-0.03	0.04	-0.72	0.47	-0.12	0.06	-0.01	0.07	-0.07	0.94	-0.14	0.13
	Lives with partner	0.03	0.03	0.89	0.37	-0.03	0.09	0.08	0.07	1.05	0.29	-0.07	0.22
	Candidate authoritarianism	0.07	0.02	3.65	0.00	0.03	0.11	-0.19	0.04	-5.33	0.00	-0.26	-0.12
	Candidate egalitarianism	0.18	0.02	9.37	0.00	0.14	0.22	0.36	0.04	9.87	0.00	0.29	0.43
	Candidate British/American identification	0.22	0.03	7.86	0.00	0.16	0.27	0.28	0.04	7.76	0.00	0.21	0.35
	Candidate European identification	-0.01	0.03	-0.36	0.72	-0.06	0.04						
	Candidate Party (Lab— - Con, Dem— GOP)	-0.07	0.02	-3.76	0.00	-0.11	-0.03	-0.05	0.04	-1.29	0.20	-0.12	0.03
	Candidate age	-0.01	0.01	-2.37	0.02	-0.02	0.00	-0.01	0.01	-1.39	0.17	-0.03	0.01
	Black candidate	-0.05	0.13	-0.36	0.72	-0.29	0.20	-0.07	0.12	-0.59	0.56	-0.31	0.16
	South Asian candidate	0.00											
	White candidate	0.01	0.08	0.09	0.93	-0.14	0.16	-0.15	0.11	-1.45	0.15	-0.36	0.05
	Candidate gender (Male— Female)	0.04	0.02	1.87	0.06	0.00	0.08	0.00	0.04	0.12	0.91	-0.07	0.08
	Candidate sexual orientation (straight— LGBTQ)	0.05	0.05	1.02	0.31	-0.05	0.15	0.06	0.06	0.99	0.32	-0.06	0.18
	Candidate has children	0.01	0.04	0.15	0.88	-0.06	0.07	0.05	0.07	0.79	0.43	-0.08	0.18
	Candidate number of children	-0.02	0.03	-0.57	0.57	-0.07	0.04	0.03	0.07	0.51	0.61	-0.10	0.17
	Married candidate	0.00											
	Single candidate	0.01	0.03	0.17	0.87	-0.06	0.07	0.05	0.06	0.88	0.38	-0.06	0.16

Participant attributes	Divorced candidate	-0.01	0.05	-0.25	0.80	-0.10	0.08	-0.05	0.08	-0.69	0.49	-0.20	0.10
	Candidate lives with partner	0.04	0.04	1.07	0.29	-0.03	0.11	0.00	0.08	-0.03	0.98	-0.16	0.15
	Participant authoritarianism	-0.02	0.03	-0.75	0.45	-0.08	0.04	-0.05	0.05	-1.03	0.30	-0.15	0.05
	Participant egalitarianism	0.07	0.04	1.97	0.05	0.00	0.14	-0.01	0.05	-0.25	0.80	-0.10	0.08
	Participant British/American identification	0.08	0.02	3.73	0.00	0.04	0.12	0.05	0.04	1.19	0.24	-0.03	0.14
	Participant European identification	0.01	0.02	0.36	0.72	-0.04	0.05						
	Participant past vote (Lab— Con, Dem— GOP)	-0.04	0.03	-1.36	0.17	-0.09	0.02	-0.07	0.05	-1.61	0.11	-0.16	0.02
	Participant age	-0.02	0.00	-4.63	0.00	-0.03	-0.01	-0.01	0.01	-1.07	0.29	-0.03	0.01
	Black participant	0.19	0.11	1.70	0.09	-0.03	0.41	0.33	0.13	2.49	0.01	0.07	0.60
	White participant	0.10	0.05	2.20	0.03	0.01	0.19	0.35	0.12	2.91	0.00	0.11	0.58
	South Asian participant	0.13	0.08	1.60	0.11	-0.03	0.30	0.33	0.14	2.36	0.02	0.05	0.60
	Latinx participant (US only)							0.32	0.14	2.31	0.02	0.05	0.59
	Participant gender (male— female)	0.02	0.02	1.06	0.29	-0.02	0.06	-0.05	0.04	-1.25	0.21	-0.12	0.03
	Participant sexual orientation (straight— LGBTQ)	0.03	0.05	0.57	0.57	-0.07	0.13	0.03	0.07	0.45	0.65	-0.10	0.16

Participant has												
children	0.07	0.03	2.63	0.01	0.02	0.13	0.12	0.08	1.61	0.11	-0.03	0.27
Participant number of												
children	-0.03	0.05	-0.54	0.59	-0.12	0.07	-0.01	0.07	-0.09	0.93	-0.14	0.12
Married participant	0.07	0.03	2.16	0.03	0.01	0.14	0.08	0.16	0.51	0.61	-0.23	0.40
Single participant	0.04	0.04	1.01	0.32	-0.04	0.11	0.08	0.17	0.46	0.64	-0.25	0.41
Divorced participant	0.08	0.05	1.47	0.14	-0.03	0.18	0.12	0.17	0.69	0.49	-0.22	0.46
Participant lives with												
partner	0.11	0.04	2.77	0.01	0.03	0.19	0.24	0.18	1.34	0.18	-0.11	0.59
Constant	4.90	0.31	15.65	0.00	4.29	5.51	5.01	0.60	8.29	0.00	3.83	6.20

Appendix 4: Tables for the vote intention models with all variables

Table 20: Linear regression models predicting vote intention including all variables

	UK						US					
	Coefficient	Standard		p-value	Lower	Upper	Coefficient	Standard		p-value	Lower	Upper
		Error	t		95% CI	95% CI		Error	t		95% CI	95% CI
Authoritarianism	0.40	0.03	14.94	0.00	0.35	0.45	0.38	0.04	10.26	0.00	0.31	0.45
Egalitarianism	0.29	0.03	9.76	0.00	0.23	0.34	0.25	0.04	6.69	0.00	0.18	0.32
European identification (UK only)	0.26	0.03	9.30	0.00	0.20	0.31						
British/American identification	0.13	0.03	4.66	0.00	0.08	0.19	0.19	0.04	5.13	0.00	0.12	0.26
Party-Past Vote (Lab— Con, Dem— GOP)	0.28	0.02	12.84	0.00	0.24	0.33	0.23	0.04	5.71	0.00	0.15	0.31
Age	0.00	0.00	2.53	0.01	0.00	0.00	0.00	0.00	-0.49	0.62	0.00	0.00
Gender (Male-Female)	-0.02	0.02	-1.10	0.27	-0.06	0.02	0.03	0.07	0.46	0.65	-0.10	0.16
Black	-0.02	0.09	-0.18	0.85	-0.20	0.16	0.13	0.08	1.73	0.08	-0.02	0.28
South Asian	-0.04	0.07	-0.63	0.53	-0.18	0.09	0.08	0.08	1.04	0.30	-0.07	0.23
Latinx-South Asian (US only)							-0.04	0.05	-0.86	0.39	-0.14	0.05
White	0.04	0.04	1.11	0.27	-0.03	0.11	-0.06	0.04	-1.66	0.10	-0.13	0.01
Sexual orientation (Straight— LGBTQ)	0.00	0.05	0.03	0.97	-0.09	0.10	-0.11	0.06	-1.92	0.05	-0.23	0.00

Candidate profile treatments	Has children	0.04	0.02	1.85	0.07	0.00	0.09	-0.05	0.05	-0.89	0.37	-0.15	0.06
	Number of children	-0.01	0.02	-0.62	0.53	-0.06	0.03	-0.02	0.03	-0.77	0.44	-0.09	0.04
	Married	-0.01	0.02	-0.57	0.57	-0.06	0.03	0.00	0.04	0.03	0.98	-0.09	0.09
	Single	0.00	0.03	0.00	1.00	-0.05	0.05	0.04	0.05	0.88	0.38	-0.05	0.13
	Divorced	-0.02	0.04	-0.34	0.73	-0.10	0.07	-0.04	0.07	-0.52	0.61	-0.17	0.10
	Lives with partner	0.04	0.03	1.38	0.17	-0.02	0.11	-0.06	0.06	-1.11	0.27	-0.17	0.05
	Candidate authoritarianism	0.10	0.02	5.11	0.00	0.06	0.14	-0.21	0.04	-5.74	0.00	-0.28	-0.14
	Candidate egalitarianism	0.21	0.02	10.92	0.00	0.17	0.25	0.48	0.04	13.17	0.00	0.41	0.55
	Candidate British/American identification	0.26	0.03	9.30	0.00	0.20	0.31	0.27	0.04	7.47	0.00	0.20	0.34
	Candidate European identification	-0.01	0.03	-0.41	0.68	-0.06	0.04						
	Candidate Party (Lab— Con, Dem— GOP)	-0.09	0.02	-4.48	0.00	-0.12	-0.05	-0.04	0.04	-1.03	0.31	-0.11	0.03
	Candidate age	-0.02	0.01	-3.05	0.00	-0.03	-0.01	0.00	0.01	-0.51	0.61	-0.02	0.01
	Black candidate	0.04	0.11	0.37	0.71	-0.18	0.26	-0.03	0.12	-0.24	0.81	-0.26	0.21
	South Asian candidate	0.00						0.00					
	White candidate	0.04	0.07	0.62	0.54	-0.10	0.18	-0.16	0.10	-1.49	0.14	-0.36	0.05
	Candidate gender (Male— Female)	0.03	0.02	1.31	0.19	-0.01	0.07	0.01	0.04	0.21	0.83	-0.07	0.08
	Candidate sexual orientation (straight— LGBTQ)	0.04	0.05	0.72	0.47	-0.06	0.13	-0.03	0.06	-0.51	0.61	-0.15	0.08

Participant attributes	Candidate has children	-0.02	0.04	-0.50	0.62	-0.09	0.05	0.10	0.07	1.46	0.15	-0.03	0.22
	Candidate number of children	0.02	0.03	0.66	0.51	-0.04	0.07	-0.03	0.07	-0.42	0.67	-0.16	0.10
	Married candidate	0.00											
	Single candidate	-0.02	0.04	-0.40	0.69	-0.09	0.06	-0.03	0.06	-0.56	0.58	-0.14	0.08
	Divorced candidate	-0.03	0.05	-0.60	0.55	-0.14	0.07	-0.05	0.08	-0.70	0.48	-0.21	0.10
	Candidate lives with partner	-0.04	0.04	-1.11	0.27	-0.11	0.03	-0.13	0.06	-2.09	0.04	-0.26	-0.01
	Participant authoritarianism	-0.03	0.03	-0.89	0.38	-0.09	0.03	-0.02	0.05	-0.36	0.72	-0.12	0.08
	Participant egalitarianism	0.04	0.04	1.18	0.24	-0.03	0.11	-0.03	0.05	-0.61	0.55	-0.12	0.06
	Participant British/American identification	0.10	0.02	4.52	0.00	0.06	0.14	0.04	0.04	0.99	0.32	-0.04	0.13
	Participant European identification	0.06	0.02	2.91	0.00	0.02	0.11						
	Participant past vote (Lab— Con, Dem— GOP)	-0.03	0.03	-1.09	0.28	-0.08	0.02	-0.11	0.05	-2.28	0.02	-0.20	-0.01
	Participant age	-0.02	0.00	-4.95	0.00	-0.03	-0.01	0.00	0.01	-0.31	0.76	-0.02	0.01
	Black participant	0.24	0.10	2.34	0.02	0.04	0.43	0.30	0.14	2.20	0.03	0.03	0.56
	White participant	0.04	0.05	0.89	0.38	-0.05	0.13	0.25	0.12	2.05	0.04	0.01	0.49
	South Asian participant	0.15	0.08	1.85	0.06	-0.01	0.31	0.30	0.14	2.13	0.03	0.02	0.57

Latinx participant (US only)							0.25	0.14	1.79	0.07	-0.02	0.52
Participant gender (male— female)	0.08	0.02	3.98	0.00	0.04	0.12	0.01	0.04	0.23	0.82	-0.06	0.08
Participant sexual orientation (straight— LGBTQ)	-0.05	0.05	-0.96	0.34	-0.14	0.05	-0.02	0.06	-0.33	0.74	-0.15	0.11
Participant has children	0.04	0.03	1.36	0.17	-0.02	0.10	0.13	0.08	1.66	0.10	-0.02	0.27
Participant number of children	0.03	0.05	0.59	0.55	-0.06	0.12	-0.04	0.07	-0.63	0.53	-0.17	0.09
Married participant	0.02	0.03	0.66	0.51	-0.05	0.09	0.24	0.15	1.65	0.10	-0.05	0.53
Single participant	-0.03	0.04	-0.66	0.51	-0.10	0.05	0.17	0.15	1.13	0.26	-0.13	0.47
Divorced participant	0.05	0.05	0.99	0.32	-0.05	0.16	0.17	0.16	1.06	0.29	-0.14	0.48
Participant lives with partner	0.07	0.04	1.79	0.07	-0.01	0.16	0.16	0.16	1.04	0.30	-0.14	0.47
Constant	4.94	0.31	16.14	0.00	4.34	5.54	4.68	0.59	7.91	0.00	3.52	5.84

Appendix 5: Controlling for candidate perceptions

Linear regression models were fit to predict vote intention, first with just the treatments, participant construct measurements, and the interactions between those corresponding terms. The second model controlled for perceptions of similarity, and the third controlled for all candidate trait perceptions.

Table 21: Comparison of linear regression models predicting vote intention, controlling for perceptions of candidate traits in addition to all variables

	<i>UK</i>			<i>US</i>		
	Treatments + interactions	Treat/int + perceived similarity	Treat/int + all perceived traits	Treatments + interactions	Treat/int + perceived similarity	Treat/int + all perceived traits
Perceived similarity		0.72***	0.57***		0.76***	0.58***
Perceived warmth			0.19***			0.17***
Perceived competence			0.15***			0.20***
Authoritarianism	0.40***	0.13***	0.11***	0.38***	0.13***	0.10***
Egalitarianism	0.29***	0.09***	0.07***	0.25***	0.05	0.01
European identification (UK only)	0.26***	0.08***	0.06**			
British/American identification	0.13***	0.05**	0.05**	0.19***	0.04	0.04
Party-Past Vote (Lab— Con, Dem— GOP)	0.28***	0.18***	0.17***	0.23***	0.09**	0.08**
Age	0.00*	0.00	0.00	0.00	0.00	0.00
Gender (Male-Female)	-0.02	-0.01	-0.01	-0.06	-0.03	-0.03
Black	-0.07	0.13	0.21	0.12	0.11	0.12
South Asian	-0.18	-0.05	-0.05	0.52	0.08	0.01

Latinx (US only)				0.32	0.06	-0.05
White	0.17	-0.02	0.01	-0.17	-0.10	-0.05
Sexual orientation (Straight— LGBTQ)	0.00	0.04	0.03	-0.11	-0.03	-0.04
Has children	0.04	0.02	0.02	-0.05	-0.05	-0.05
Number of children	-0.01	-0.03	-0.03	-0.02	0.01	0.02
Married	-0.05	-0.07	-0.08	0.00	0.07	0.07
Single	0.00	-0.04	-0.06	0.16	-0.05	-0.07
Divorced	-0.06	0.03	0.07	-0.14	-0.13	-0.23
Lives with partner	0.18	0.10	0.07	-0.25	-0.48*	-0.44*
Candidate authoritarianism	0.10***	0.05***	0.05***	-0.21***	-0.06**	-0.04
Candidate egalitarianism	0.21***	0.08***	0.05***	0.48***	0.21***	0.14***
Candidate British/American identification	0.26***	0.10***	0.08***	0.27***	0.06**	0.03
Candidate European identification	-0.01	0.00	-0.02			
Candidate Party (Lab— Con, Dem— GOP)	-0.09***	-0.03*	-0.02	-0.04	0.00	0.00
Candidate age	-0.02**	-0.01*	-0.01	0.00	0.00	0.01
Black candidate	0.03	0.06	0.04	0.30**	0.07	0.03
South Asian candidate	0.00	0.00	0.00	0.00	0.00	0.00
White candidate	-0.08	0.06	0.03	0.19	0.04	-0.01
Candidate gender (Male— Female)	0.03	0.00	0.00	0.01	0.00	0.00
Candidate sexual orientation (straight— LGBTQ)	0.04	0.00	0.00	-0.03	-0.07*	-0.07*
Candidate has children	-0.02	-0.02	-0.03	0.10	0.06	0.04
Candidate number of children	0.02	0.03	0.04	-0.03	-0.05	-0.04
Single candidate	0.02	0.02	0.03	-0.14	-0.08	-0.02
Divorced candidate	0.02	-0.02	-0.04	-0.03	0.07	0.11

<i>Participant attributes</i>	Candidate lives with partner	-0.04	-0.06	-0.07	-0.14	0.01	0.06
	Participant authoritarianism	-0.03	-0.01	0.00	-0.02	0.02	0.00
	Participant egalitarianism	0.04	-0.01	-0.02	-0.03	-0.02	-0.03
	Participant British/American identification	0.10***	0.04**	0.03	0.04	0.00	-0.02
	Participant European identification	0.06**	0.06***	0.06***			
	Participant past vote (Lab— Con, Dem— GOP)	-0.03	0.00	-0.01	-0.11*	-0.05	-0.05*
	Participant age	-0.02****	-0.01*	-0.01*	0.00	0.00	0.01
	Black participant	0.51*	0.13	0.09	0.53	0.04	-0.01
	White participant	0.00	-0.05	-0.08	0.59*	0.03	0.02
	South Asian participant	0.39*	0.13	0.07	0.33	0.06	0.08
	Latinx participant (US only)				0.33	-0.02	0.04
	Participant gender (male— female)	0.08***	0.06***	0.04**	0.01	0.04	0.03
	Participant sexual orientation (straight— LGBTQ)	-0.05	-0.07*	-0.06*	-0.02	-0.04	-0.03
	Participant has children	0.04	-0.01	0.00	0.13	0.03	0.04
	Participant number of children	0.03	0.05	0.04	-0.04	-0.04	-0.05
	Married participant	0.07	-0.03	-0.01	0.48	0.32	0.26
	Single participant	-0.05	-0.09	-0.07	0.26	0.25	0.19
	Divorced participant	0.14	-0.02	-0.01	0.41	0.22	0.24
	Participant lives with partner	0.06	-0.06	-0.07	0.45	0.20	0.15
	Constant	4.42***	1.40***	0.58**	2.96***	0.46	-0.52
	R2	0.15	0.59	0.63	0.19	0.65	0.69

Appendix 6: Photo ratings

Before fielding the experiments in the UK and US, we obtained ratings of the candidate photos. The sample (N=112) was collected in June 2021 via Amazon’s Mturk and was limited to adults living in the US. Respondents were compensated at a rate comparable to \$12/hour. Each candidate photo was presented on its own without any other information, meaning none of the additional attributes from the experiment were included. Respondents were asked to rate each photo along a 7-point scale for attractiveness, dominance, and trustworthiness. The responses were averaged for each variable (attractiveness, dominance, and trustworthiness).

These photo ratings were used to select the photos of White female and White male candidates to match the candidates of colour along those three variables (attractiveness, dominance, and trustworthiness). These ratings were also used in the analysis testing the prediction from adaptive followership.

Table 22: Mean and standard errors of candidate photo ratings for perceptions of attractiveness, dominance and trustworthiness

<i>Photo file name</i>	<i>Attractiveness</i>		<i>Dominance</i>		<i>Trustworthiness</i>	
	Mean	Standard error	Mean	Standard error	Mean	Standard error
<i>fb1.png</i>	4.86	0.13	4.14	0.14	4.79	0.13
<i>fb2.png</i>	4.69	0.13	4.53	0.15	4.60	0.13
<i>fb3.png</i>	3.61	0.15	4.20	0.15	4.50	0.12
<i>mb1.png</i>	3.66	0.16	3.52	0.15	4.52	0.15
<i>mb2.png</i>	2.58	0.18	3.08	0.17	4.35	0.15
<i>mb3.png</i>	2.65	0.18	4.37	0.14	3.82	0.16
<i>mb4.png</i>	3.84	0.15	4.57	0.14	4.02	0.15
<i>fsa1.png</i>	5.39	0.11	4.60	0.13	4.26	0.14
<i>fsa2.png</i>	4.71	0.12	3.86	0.14	4.77	0.12
<i>fsa3.png</i>	3.33	0.16	4.60	0.14	4.16	0.14
<i>fsa4.png</i>	4.59	0.12	3.80	0.14	4.75	0.13
<i>msa1.png</i>	3.03	0.18	3.96	0.14	4.65	0.13
<i>msa2.png</i>	3.26	0.17	4.44	0.14	4.43	0.15
<i>msa3.png</i>	3.50	0.15	3.89	0.16	4.82	0.12
<i>msa4.png</i>	4.43	0.14	4.11	0.14	4.34	0.15
<i>fw2.png</i>	5.55	0.12	4.18	0.15	4.78	0.13
<i>fw5.png</i>	3.85	0.16	4.56	0.13	4.57	0.12
<i>fw6.png</i>	5.52	0.12	4.88	0.14	4.12	0.15

<i>fw10.png</i>	3.08	0.18	4.61	0.15	4.16	0.13
<i>fw11.png</i>	3.02	0.19	3.22	0.17	4.77	0.14
<i>fw13.png</i>	3.33	0.17	3.56	0.16	4.58	0.13
<i>fw15.png</i>	5.07	0.11	3.35	0.15	4.94	0.12
<i>fw16.png</i>	2.94	0.17	4.11	0.16	4.33	0.14
<i>mw2.png</i>	2.73	0.18	3.80	0.16	4.60	0.15
<i>mw3.png</i>	4.64	0.13	4.67	0.14	4.13	0.15
<i>mw6.png</i>	3.65	0.14	4.40	0.15	4.34	0.14
<i>mw8.png</i>	3.17	0.16	4.52	0.16	4.15	0.16
<i>mw10.png</i>	2.92	0.16	3.88	0.16	4.21	0.14
<i>mw11.png</i>	3.32	0.17	3.73	0.16	4.35	0.14
<i>mw14.png</i>	3.60	0.16	4.55	0.15	4.35	0.14
<i>mw26.png</i>	3.21	0.18	4.55	0.15	4.32	0.15

5. Group-based preferences predict vote choice and election results in British elections between 2015 and 2019

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Abstract

Attempts to predict election results in sub-national geographic areas often employ demographics, economic factors, and previous election results but less frequently utilise social psychological predictors. The present study proposes the use of group-based preferences, specifically national identification, authoritarianism, and egalitarianism, in predicting vote choice on the individual-level and vote share on the constituency-level in British elections between 2015 and 2019. Previous research based on Social Identity Theory (SIT) and the Dual Process Motivational (DPM) Model highlight the utility of group-based preferences as predictors of political attitudes and behaviours at the individual level; however no prior studies have examined the relationships between these orientations and British election results at the constituency-level. The three studies in this paper employ data from the British Election Study waves conducted between 2015 and 2019 for cross-sectional analysis in the first two studies and to generate constituency-level estimates of group-based preferences in the third study. In these three studies, we compare the predictive ability of group-based preferences, key demographics, and left-right ideology, finding that group-based preferences are comparable or superior predictors of (1) individual vote choice among British voters in general, (2) individual vote choice among undecided voters, and (3) constituency-level vote share as compared to key demographics and left-right ideology.

Key words: vote choice, election prediction, multilevel regression with post-stratification (MRP), intergroup relations

The turbulent period in British politics between 2015 and 2019 included both the unexpected result of the 2016 referendum on the United Kingdom's membership in the European Union as well as three General Elections, two more than originally expected following the 2015 election. During these unanticipated electoral moments, economic factors, such as income and social class became less predictive of vote choice, especially for far right-wing parties such as the United Kingdom Independence Party (UKIP; Carella & Ford, 2020). Pundits and prognosticators looked beyond economic or "pocketbook" factors to contextualise political shifts in the United Kingdom, as well as the United States and Western Europe. Instead, they have turned towards social psychological factors tied to culture, personality, and "identity politics" to understand voting behaviour (e.g. Kaufman, 2016; Berman, 2018; Malik, 2021). The present study narrows that broad category down to a focus on group-based preferences, which refer to social psychological preferences related to group identification, coordination, and hierarchy, and uses the elections in this period to illustrate the predictive utility of group-based preferences for vote choice and election results.

In recent years, efforts to predict elections have integrated a diverse set of predictors from macro-economic indicators and previous election results to social media data (e.g. Belanger & Soroka, 2012; Erikson & Wlezien, 2021; Franch, 2013; Kennedy, et al., 2017; Lewis-Beck & Tien, 1999). Methodological advances in election prediction have utilized multilevel regression with post-stratification (MRP) to generate sub-national estimates of parties' vote shares (Lauderdale, et al., 2017). While limited research uses sub-national estimates of social psychological predictors of vote choice, the few existing studies indicate this is a worthwhile endeavour, such as the study which found associations between state-wide levels of personality traits and US Presidential election results (Rentfrow, et al., 2009). Moreover, advances in Social Identity Theory (SIT) and Dual Process Motivational (DPM) Model suggest that a certain set of orientations towards group membership and coordination would be optimal predictors of vote choice as they are the underlying factors which shape political attitudes and electoral decision-making (Duckitt & Sibley, 2010b; for a review, see Yzerbyt & Demoulin, 2010).

Group-based preferences of an individual refer to the extent to which the individual identifies with certain social groups, their preferences for internal organisation and appropriate recognition of authority within the group, and their preferences for the distribution of rights and resources between different social groups. In this study, these dimensions of group-based preferences are measured with national identifications (English, British, and European), authoritarianism, and egalitarianism.

Recent research has experimentally confirmed that individuals' group preferences condition the way we react to candidates signalling group-based preferences (Baron, et al., 2022a; Baron, et al., 2022b), and so the present study builds on that work to investigate the predictive power of these key group-based preferences for vote choice and election results as compared to more commonly used predictors, including key demographic factors and left-right ideology. All three studies employ data from the British Election Study waves conducted in advance of and directly following the General Elections of 2015, 2017, and 2019 as well as the 2016 referendum on the UK's membership in the EU.

The three studies in this paper begin with individuals' vote choice, then address undecided voters, and lastly consider constituency-level election results. First, I establish the basic relationship between group-based preferences and vote choice and replicate the individual-level associations identified in previous research. Study 1 considers the relationship between group-based preferences and individual vote choice with a cross-sectional design and compares the predictive power of group-based preferences with commonly used demographic predictors and left-right ideology in the British elections between 2015 and 2019. I then narrow the focus to voters who do not report a vote intention months before an election and who thus complicate efforts to predict elections months in advance. Study 2 investigates these same associations between group-based preferences and vote choice among undecided voters in those British elections and compares predictive ability with key demographics and left-right ideology. Lastly, Study 3 explores the creation of constituency-level estimates of group-based preferences and considers whether they improve predictions for the elections that took place between 2015 and 2019 compared to the models fit with demographics and left-right ideology.

Overall, I find that models fit with group-based preferences are comparably predictive or superior to those fit with key demographics or left-right ideology in all three studies and in all elections assessed. However, which group-based preferences are significant predictors vary between elections. Moreover, when all factors are combined into one model, left-right ideology often accounts for the most variation in vote choice and vote share in the General Elections but is less predictive of vote choice and vote share than some group-based preferences in the 2016 Brexit referendum. In summary, group-based preferences provide considerable predictive power in addition to left-right ideology for all elections analysed. These group-based preferences provide insight to election prediction, and measurements of these constructs are critical additions to public opinion polling and election prediction models.

While other similar studies attempt to explain why people vote the way they do, our focus is prediction rather than explanation in order to illustrate the practical application of this theoretical area. The results of these studies should be considered alongside the wealth of literature indicating the explanatory power of group-based preferences. However, our focus is the predictive utility of group-based preferences for individuals' vote choice and observed election results.

Intergroup relations, group-based preferences, and vote choice

The social psychological area of study focused on intergroup relations offers some explanations for why people vote the way they do, and an application of the advances in intergroup relations would inform and improve election prediction. The study of intergroup relations refers to “whenever individuals belonging to one group interact, collectively or individually, with another group or its members in terms of their group identification” (Sherif, 1966, p. 12). The intergroup literature specifically focused on group-based preferences, as we define them above, and vote choice highlights the utility of Social Identity Theory (SIT; Tajfel & Turner, 1979) and Dual Process Motivational (DPM; Duckitt & Sibley, 2010b) model as a strong theoretical foundation. Building on those theories, a set of group-based preferences, including those towards group membership, how we believe those groups should be organised, and how resources and opportunities should be distributed between various groups, have been identified as strongly and consistently influential on voting (see Baron, et al., 2022a and Baron, et al., 2022b). These specific group-based preferences have been demonstrated to be strongly linked to political attitudes and behaviour in political contexts around the world.

Within the study of intergroup relations and group-based preferences, the most prominent theoretical framework is social identity approach. In-groups are critically importance in this theoretical framework because they are considered to be a primary source of support for cultural worldviews (e.g. Castano & Dechesne, 2005; Greenberg, et al., 1997). This approach theorises that the relative strength of identification with various in-groups will shape attitudes and determine behaviours in our social interactions, notably our political attitudes and behaviours (Tajfel & Turner, 1979; Turner & Oakes, 1989; for reviews, see Yzerbyt & Demoulin, 2010 and Mason, 2018).

In the context of British politics, national and supranational identities, specifically English, Scottish, Welsh, British, and European, are key group identities to consider. English identity and prioritization of that identity over British or European identity has been demonstrated to be

strongly tied to political preferences, such as support of Brexit as well as partisan preferences (see Ford & Sobolewska, 2018). Henderson and colleagues (2020) found that prioritization of English, Scottish, and Welsh identities had varied associations with vote choice in the 2016 referendum, with those prioritising English identity primarily voting Leave and those prioritising Scottish or Welsh identity primarily voting Remain. European identification has consistently been found to be a predictor of voting behaviour in the 2016 referendum (see Dennison, et al., 2020). European identification as well as related Brexit identities, such as “Leavers” and “Remainers”, were at one time more strongly associated with political attitudes and preferences than partisan identification (Montagu, 2018; Hobolt, et al., 2020). The related concept of ethnocentrism refers to the disposition of considering one’s ethnic and national group as superior to all others (Bizumic & Duckitt, 2012), and Sobolewska and Ford (2020) contend divergent and polarising levels of ethnocentrism in the UK led to the surprise result of the 2016 referendum on EU membership and the increase in Brexit identities. Throughout the recent era of turbulent politics and the emergence of new issues, group identification, specifically national identities, have remained helpful predictors of new political preferences.

In addition to in-group identities and levels of group identification, group-based preferences also include our preferences for the internal structure, organisation, and norms within our groups as well as preferences for an appropriate hierarchy or lack thereof between different groups in society. The Dual Process Motivational (DPM) model contends those two ideological dimensions are in fact distinct ideological dimensions of authoritarianism and egalitarianism, which produce political ideology, preferences, and prejudices (Duckitt & Sibley, 2010b).

Preferences for in-group structure are commonly studied in terms of authoritarianism, a set of attitudes about how hierarchy should be applied within a group, focusing on the need for submission to strong leaders and the punishment of those who deviate from their orders (Adorno, Frenkel-Brunswik, et al., 1950; Altemeyer, 1981; Altemeyer, 2004). Right-wing authoritarianism (RWA; Altemeyer, 1981) is a commonly used measure, which captures individual attitudes on three distinct dimensions: the need for strong authority, strict adherence to the status quo, and support for social conservatism and traditionalism (Duckitt, et al., 2010). RWA predicts politically relevant values, such as tradition, conformity, security, and orthodoxy (Duriez & Van Hiel, 2002), and an array of policy preferences, such as support for strict prison sentences, the use of nuclear weapons or military force, and the deportation of undocumented immigrants (Duckitt et al., 2010). Moreover, authoritarian dispositions are long lasting and exert influence on political positions for a long time (Hetherington & Suhay, 2011; Osborne, et al., 2020). Expressions of authoritarian

preferences adopt to varied situations and newly emerged political situations, implying this group-based preference is stable and enduring over both time as well as context (Hetherington & Weiler, 2009).

Preferences for equality or hierarchy between groups are often studied in terms of the perceptions of optimal distribution economically (i.e. resources and wealth) and socially (i.e. power and rights). These egalitarian preferences are so deeply rooted that they are observable in individuals as early as infancy and become stable and enduring from adolescence and into adulthood (for a review, see Sheehy-Skeffington & Thomsen, 2020). This is potentially because egalitarian preferences are partially heritable. Two separate studies of twins raised in the same household and in different households found that the variation in economic egalitarianism preferences was largely explained by the genetic factor rather than socialisation, meaning these group-based preferences can be described as genetic traits (Batrićević & Littvay, 2017; Kleppestø, et al., 2019). The study of egalitarianism as it pertains to social groups, power, resources, and hierarchy has been explained through social dominance theory and measured with social dominance orientation (SDO; Sidanius & Pratto, 1999). SDO measures individuals' preferences for maintaining or reducing intergroup social hierarchy (Pratto, et al., 1994; Ho, et al., 2015). SDO has been found to correlate strongly and consistently with various types of intergroup prejudice, such as those based on racial, ethnic, and religious social divisions (see Sibley & Duckitt, 2008). Importantly, Sidanius and Pratto (1999) found that SDO remains highly stable as an orientation over time, and more recently, Osborne and colleagues (2020) confirmed that levels of SDO as well as their associations with prejudice remained stable over the course of ten years. Measurements of preferences for egalitarianism (in terms of both wealth and social rights) have been found to be suitable substitutes for SDO; moreover, high or low SDO, as signalled by a political candidate, has been demonstrated to tap into voters' equality preferences and determine vote choice (Baron, et al., 2022a).

Strong ties between authoritarianism, egalitarianism, and political preferences and behaviours have been confirmed in a variety of election contexts in Western democracies despite their varied political systems and cultures (Cornelis & Van Hiel, 2015; Crowson & Brandes, 2017; De Zavala, et al. 2017; Mutz, 2018; Womick, et al. 2018). Moreover, a recent meta-analysis of cross-sectional studies confirmed this, consistently finding that high authoritarianism and relatively low egalitarianism predict support for Donald Trump in the US, Brexit and the United Kingdom Independence Party (UKIP) in the UK, and far-right parties in Western Europe (Van Assche, et al. 2019). While these studies confirm a strong link between group-based preferences and vote

choice on the individual level, no known research has validated this theoretical approach by using it to predict observed election results and not simply individuals' self-reported vote choice.

Few studies have considered these three group-based preferences in one study, but in a novel survey experiment, Baron, Lauderdale, and Sheehy-Skeffington (2022a) found that national identification (especially European and English), authoritarianism, and egalitarianism exerted considerable influence over vote choice when candidates signalled these group-based preferences. Participants responded differentially to the same group-based preference statements from candidates, depending on their own group-based preferences, despite the measurement of their group-based preferences preceding the experiment by months or years (Baron, et al., 2022a). This study also considered other social psychological influences on vote choice, such as populist sentiment, trust in politicians, and national nostalgia among others, but found that those key group-based preferences of national identification, authoritarianism, and egalitarianism were the most influential on vote choice (Baron, et al., 2022a).

Election prediction and MRP

Contemporary efforts to predict elections have often utilised geographically grouped aggregations of individual-level factors, such as economic indicators, public polling of vote intention and vote expectation, socio-demographics, social media content, and combinations of these predictors among others (e.g. Belanger & Soroka, 2012; Erikson & Wlezien, 2021; Franch, 2013; Kennedy, et al. 2017; Lewis-Beck & Tien, 1999). While fewer studies have investigated the potential utility of social psychological constructs in predicting election results, those that have confirm this area of research deserves consideration. Rentfrow and colleagues (2009) found that state-wide levels of personality traits predict voting patterns in the U.S. Presidential Elections in 1996, 2000, and 2004. The state-level means of openness and conscientiousness within a state predicted the vote share of Democratic and Republican Presidential candidates, controlling for sociodemographic factors and past election results (Rentfrow, et al., 2009). More recent work, however, suggest that the relationship between personality traits and voting is spurious (Prosser, in progress), indicating researchers should consider alternative social psychological constructs which are more strongly and consistently correlated with voting.

Methodological advances in estimating area-level averages of attitudes or preferences at a sub-national level have enabled election predictions for sub-national populations, such as parliamentary constituencies. Multilevel regression with post-stratification (MRP) is an appropriate method for such estimations of political preferences at a sub-national level, and various iterations

of MRP have been used in recent British, American, German, and Swiss elections to model vote intention on the constituency or state-level (Park, et al., 2004; Selb & Munzert 2011; Lauderdale, et al., 2017; Leeman & Wasserfallen, 2020). Moreover, MRP has been successfully used to estimate politically relevant attitudes, such as policy preferences (see Leeman & Wasserfallen, 2020). For instance, Warshaw and Rodden (2012) estimated attitudes towards same sex marriage for congressional and state legislative districts in the United States and validated that those estimates are associated with vote shares from referendums on that issue in Arizona, California, Michigan, Ohio, and Wisconsin.

Few studies have used MRP to estimate group-based preferences for sub-national populations; however, two examples demonstrate the utility of this approach. In what could be considered a study of outgroup prejudice, Butz and Kehrberg (2016) produced MRP estimates of anti-immigrant sentiments in the US and found that higher levels of those sentiments predicted stricter immigration policies at the state-level. Secondly, Kehrberg (2017) later used MRP estimates of authoritarianism to predict the variation in how states applied immigrant welfare policies. Kehrberg's (2017) study of 1990s immigration welfare policies found that states with higher levels of authoritarianism were less likely to grant immigrants access to a federal welfare program administered at the state-level. These studies indicate the use of MRP estimates of group-based preferences provide valid predictors of local policies, and yet, no previous study has applied this method of MRP group-based preferences estimates to predict vote share in an electoral context.

The present study

The existing political psychology research indicates which constructs should be closely linked to vote choice and yet, knowledge about these individual-level associations on their own do not aide the prediction of election results. Aggregating measures of these group-based preferences to the constituency-level allows us to assess their predictive ability of actual election results and assess if these associations still hold at the constituency-level. The present study bridges the gap between this political psychology literature and election prediction methodology by demonstrating that the same links between vote choice and group-based preferences that exist on the individual level are also helpful in predicting actual election results at the aggregate level. Moreover, this approach provides a method for assessing how public opinion ebbs and flows, especially in relation to election results. This application of group-based preferences to British politics enables us to assess how levels of group identification, preferences for within group organisation, and preferences for intergroup hierarchy correspond to electoral changes and ultimately improve election predictions at the constituency-level. Throughout these three studies, key demographics and left-right ideology

are used as comparisons to benchmark group-based preferences' predictive ability against commonly used predictors at both the individual and constituency levels.

First, the predictive utility of group-based preferences for individual vote choice must be assessed. Are group-based preferences more or less predictive of individual vote choice than key demographics and left-right ideology? Study 1 considers this relationship on the individual level in General Elections in 2015, 2017, and 2019 as well as the 2016 Brexit referendum and compares this predictive ability with that of demographic attributes and left-right ideology.

Next, I investigate the predictive ability of group-based preferences for undecided voters in these same elections in order to establish the utility of group-based preferences in predicting vote choice before undecided voters have chosen a political party to support. Do group-based preferences predict the ultimate vote choice of undecided voters early in the election cycle? This study narrows to voters who were undecided months before each election and attempts to predict who they ultimately report voting for immediately following the election.

The first two studies utilise self-reported vote choice rather than observed election outcomes. The third study, in contrast, uses this approach to predict the actual results from those elections by modelling constituency-level estimates of group-based preferences and comparing their predictive ability with that of constituency-level demographic measurements and a constituency-level estimate of left-right ideology. By not relying on self-reported vote choice and instead utilizing the observed vote counts in each constituency, this study tests and validates this theoretical approach at the electorally relevant, sub-national level of parliamentary constituencies. Again, I benchmark the predictive power of group-based preferences against demographics and left-right ideology by investigating whether estimates of group-based preferences at the level of parliamentary constituencies more or less predictive of election outcomes than key demographics and left-right ideology.

Overall, these studies provide evidence that group-based preferences are as or more helpful in predicting vote choice and election results as key demographic attributes and left-right ideology. These findings contribute to the political psychology literature on the underlying influences on voting as well as to practitioners' attempts to improve election prediction.

Study 1 Methods

Design

Study 1 establishes the associations between group-based preferences and individual vote choice and then compares the predictive ability of key demographics, left-right ideology, and group-based preferences for individual vote share in the General Elections of 2015, 2017, and 2019 and the Brexit referendum in 2016. Study 1 uses data from the British Election Study (BES) waves conducted during the months preceding each election in 2015, 2016, 2017, and 2019 as detailed in Appendix 1 (Fieldhouse, et al., 2020).

Materials

The survey items used to measure the key group-based preferences from the BES are listed in Table 23. The items used for English, British, and European identification in the BES ask respondents to place themselves on a scale from one to seven in terms of Englishness, Britishness, and Europeanness (Fieldhouse, et al., 2020). Authoritarianism was measured with five statements, which use items from Evans, Heath, and Lalljee’s 1996 measure of the libertarian-authoritarian scale. These five items were averaged to measure authoritarianism ($\alpha = 0.80$ for 2015, 0.82 for 2017, and 0.81 for 2019). Measurements of egalitarianism were separated into support for economic or wealth equality and support for social equality. Support for wealth equality was measured by an item assessing support for redistribution of personal wealth (Fieldhouse, et al., 2020). Support for social equality was measured with three statements about the equality of opportunities for different social groups: ethnic minorities, women, and gays and lesbians (Fieldhouse, et al., 2020). These three measures were averaged to measure support for social equality ($\alpha = 0.78$ for 2015, 0.80 for 2017, and 0.85 for 2019). Left-right ideology was measured by self-placement along a left-right spectrum (Fieldhouse, et al., 2020). All measures were standardized to enable comparison.

Table 23: Survey items used to measure group-based preferences and ideology

<i>Group-based preference</i>	<i>Question</i>	<i>Response options</i>
<i>Left-right ideology</i>	“In politics, people sometimes talk of left and right. Where would you place yourself on the following scale?”	11-point scale between “left” and “right”
<i>English identification</i>	“Where would you place yourself on these scales?” [Englishness]	Scale from 1 (low) to 7 (high)

<i>British identification</i>	“Where would you place yourself on these scales?” [Britishness]	Scale from 1 (low) to 7 (high)
<i>European identification</i>	“Where would you place yourself on these scales?” [Europeanness]	Scale from 1 (low) to 7 (high)
<i>Authoritarianism</i>	“How much do you agree or disagree with the following statements?”	
	“Young people today don’t have enough respect for traditional British values.”	Likert scale from 1 to 5
	“For some crimes, the death penalty is the most appropriate sentence.”	Likert scale from 1 to 5
	“Schools should teach children to obey authority.”	Likert scale from 1 to 5
	“Censorship of films and magazines is necessary to uphold moral standards.”	Likert scale from 1 to 5
	“People who break the law should be given stiffer sentences.”	Likert scale from 1 to 5
<i>Support for wealth equality</i>	“Some people feel that government should make much greater efforts to make people’s incomes more equal. Other people feel that government should be much less concerned about how equal people’s incomes are. Where would you place yourself on this scale?”	11-point scale between “Governments should try to make incomes equal” and “Government should be less concerned about equal incomes”
<i>Support for social equality</i>	“Please say whether you think these things have gone too far or have not gone far enough in Britain.” [3 items, reverse-coded]	
	“Attempts to give equal opportunities to ethnic minorities”	5-point scale between “Not gone nearly far enough” and “Gone much too far”
	“Attempts to give equal opportunities to women”	5-point scale between “Not gone nearly far enough” and “Gone much too far”
	“Attempts to give equal opportunities to gays and lesbians”	5-point scale between “Not gone nearly far enough” and “Gone much too far”

Procedure

Multilevel logistic regression models with random effects were fit to predict individual vote choice for the Conservative Party in 2015, 2017, and 2019 as well as for voting Leave in 2016 (i.e. a binary variable with 1 for Conservative Party vote choice and 0 for other parties and undecided).

Individuals (level one variable) were assessed in these models in relation to their parliamentary constituency (level two variable). A multilevel model with random effects was selected to account for the clustering of like-minded voters in geographic areas, the shared list of potential candidates at the constituency-level, and the potential variation in associations between these predictors and vote choice in different geographic areas. I obtained four models for each election year, (1) fit with demographics, (2) left-right ideology, (3) group-based preferences, and (4) all of the variables used in aforementioned models. Lastly, I also compare the overall model fit in terms of AIC statistics of these four models for each election year. The models were fit using the parameters of Stata's `xtmelogit` function.

Sample

The BES enabled substantial sample sizes for each year (see Table 24); however, it was necessary to limit each sample to those individuals who had provided responses to the relevant variables of demographics, left-right orientation, group-based preferences, and crucially, parliamentary constituency. The 2019 sample was considerably smaller than previous years since fewer respondents had provided parliamentary constituency following data protection policy changes (specifically General Data Protection Regulations changes in 2018), but this still provided a sufficient sample for our multilevel models.

Table 24: Sample sizes and descriptive statistics for multi-level models used to produce the constituency estimates

<i>Year</i>	<i>Total individual responses used in each multi-level model</i>	<i>% Female</i>	<i>Mean age</i>
2015	14,969	44%	54
2016	14,864	44%	54
2017	11,164	46%	53
2019	7,612	48%	53

Study 1 Results

In all elections assessed, group-based preferences are significant predictors of individual vote choice controlling for demographics (age, gender, ethnicity, education, and employment) as well as left-right ideology. Which group-based preferences remained significant varied in the election years analysed.

In the three General Elections analysed, left-right ideology is the strongest predictor of voting Conservative controlling for all other variables. In 2015, ethnicity and gender (white and male, both positively associated) as well as support for wealth equality (negatively associated) were the variables with the strongest associations with Conservative Party vote choice following left-right ideology (see Table 25).

Interestingly in 2016, several group-based preferences were stronger predictors of voting Leave than left-right ideology (Table 26). In order of magnitude, European identification (negatively associated), support for social equality (negatively associated), and authoritarianism (positively associated) were stronger predictors of voting Leave than left-right ideology. Two demographic factors, specifically education (holding a university degree, negatively associated) and employment status (being employed, negatively associated) were also associated with voting Leave in the 2016 referendum.

In 2017, ethnicity (white, positively associated), authoritarianism (positively associated), European identification (negatively associated), British identification (positively associated), and support for wealth equality (negatively associated) were the variables with the strongest associations with voting Conservative following left-right ideology (see Table 27). In 2019, European identification (negatively associated), support for social equality (negatively associated), authoritarianism (positively associated), British identification (positively associated) were the variables with the strongest associations with voting Conservative, and age (positively associated) was the only demographic factor to remain significant controlling for all other variables (see Table 28).

Table 25: Coefficients from multilevel logistic regression models predicting 2015 Conservative Party vote choice

<i>Demographics</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All</i>
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<i>Age</i>	0.02***			0.01***
<i>Gender (Male)</i>	0.02			0.26***
<i>Ethnicity (White)</i>	0.46***			0.30*
<i>Holds university degree</i>	-0.10**			0.10*
<i>Employed</i>	0.11**			0.12*
<i>Left-right ideology</i>		0.68***		0.56***
<i>English identification</i>			0.16***	0.12***
<i>British identification</i>			0.18***	0.14***
<i>European identification</i>			-0.05***	0.03
<i>Authoritarianism</i>			0.39***	0.12**
<i>Support for social equality</i>			-0.14***	0.09*
<i>Support for wealth equality</i>			-0.30***	-0.20***
<i>Constant</i>	-2.25	-4.55	-2.11	-6.37

*** p<0.001 ** p<0.01 * p<0.05

Table 26: Coefficients from multilevel logistic regression models predicting 2016 EU Referendum Leave vote choice

	<i>Demographics</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All</i>
<i>Age</i>	0.02***			0.01***
<i>Gender (Male)</i>	-0.12**			-0.08
<i>Ethnicity (White)</i>	0.09			0.07
<i>Holds university degree</i>	-0.89***			-0.33***
<i>Employed</i>	-0.08			-0.19***
<i>Left-right ideology</i>		0.36***		0.16***
<i>English identification</i>			0.15***	0.13***
<i>British identification</i>			0.06***	0.01
<i>European identification</i>			-0.67***	-0.66***
<i>Authoritarianism</i>			0.61***	0.45***
<i>Support for social equality</i>			-0.57***	-0.46***
<i>Support for wealth equality</i>			-0.01	0.02**
<i>Constant</i>	-0.60	-1.85	0.64	-0.17

*** p<0.001 ** p<0.01 * p<0.05

Table 27: Coefficients from multilevel logistic regression models predicting 2017 Conservative Party vote choice

	<i>Demographics</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All</i>
<i>Age</i>	0.03***			0.02***
<i>Gender (Male)</i>	-0.06			0.16**

<i>Ethnicity (White)</i>	0.46***			0.52**
<i>Holds university degree</i>	-0.34***			0.10
<i>Employed</i>	0.15**			0.08
<i>Left-right ideology</i>		0.85***		0.63***
<i>English identification</i>			0.14***	0.09***
<i>British identification</i>			0.25***	0.20***
<i>European identification</i>			-0.29***	-0.24***
<i>Authoritarianism</i>			0.52***	0.24***
<i>Support for social equality</i>			-0.38***	-0.09*
<i>Support for wealth equality</i>			-0.30***	-0.19***
<i>Constant</i>	-2.20	-4.84	-0.73	-5.98

*** p<0.001 ** p<0.01 * p<0.05

Table 28: Coefficients from multilevel logistic regression models predicting 2019 Conservative Party vote choice

	<i>Demographics</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All</i>
<i>Age</i>	0.03***			0.03***
<i>Gender (Male)</i>	-0.07			0.04
<i>Ethnicity (White)</i>	0.29			-0.09
<i>Holds university degree</i>	-0.63***			-0.01
<i>Employed</i>	0.04			0.03
<i>Left-right ideology</i>		0.95***		0.63***
<i>English identification</i>			0.20***	0.17***
<i>British identification</i>			0.31***	0.21***
<i>European identification</i>			-0.50***	-0.48***
<i>Authoritarianism</i>			0.60***	0.30***
<i>Support for social equality</i>			-0.58***	-0.39***
<i>Support for wealth equality</i>			-0.27***	-0.16***
<i>Constant</i>	-1.79	-5.00	-0.08	-4.24

*** p<0.001 ** p<0.01 * p<0.05

Next, a comparison of model fit in terms of AIC statistics reveals which variables best account for Conservative vote choice. Following the models fit with all variables, the models fit with left-right ideology and those with group-based preference performed best, yet in different election years. Table 29 presents the AIC statistics for each model, and this comparison indicates that in 2015 and 2017, the model fits with left-right ideology provides the best fit in 2015 and 2017; however, in 2016 and 2019, the models fit with group-based preferences provide the best fit.

Table 29: Comparison of model fit with AIC statistics

<i>Year</i>	<i>Model fit with</i>	<i>AIC</i>
2015	Demographics	18198.28
	Left-right ideology	13518.86*
	Group-based preferences	14764.87
	<i>All variables</i>	<i>12646.45</i>
2016	Demographics	19134.08
	Left-right ideology	18038.26
	Group-based preferences	13061.42*
	<i>All variables</i>	<i>12688.63</i>
2017	Demographics	14471.78
	Left-right ideology	9728.11*
	Group-based preferences	10339.21
	<i>All variables</i>	<i>8557.45</i>
2019	Demographics	9763.29
	Left-right ideology	6637.11
	Group-based preferences	5984.07*
	<i>All variables</i>	<i>5053.79</i>

* denotes second best fit, following model with all variables

Study 2 Methods

Study 1 established that group-based preferences are predictive of vote choice at comparable or superior levels to key demographics and left-right ideology. Are group-based preferences still useful predictors for the subsample of voters who are undecided, perhaps less politically engaged, or considering multiple political parties to support? Next, I focus on those specific voters who are undecided months before an election to determine if group-based preferences, as well as demographics and left-right ideology, are helpful predictors of who they ultimately decided to vote for.

Design and Materials

Study 2 builds upon Study 1 by narrowing the focus from all voters to only undecided voters. Like Study 1, Study 2 uses BES data from the relevant election years (see Appendix 1) and the same survey items for group-based preferences (see Table 23). The BES's collection of multiple

waves before and after each election enables a longitudinal design, in which we determine whether group-based preferences measured before each election aid the prediction of vote choice, reported immediately following the election.

Procedure

Using a sample of undecided voters for each election year, binary logistic regression models were fit, using demographics, left-right ideology, and group-based preferences to predict eventual vote choice, specifically voting for the Conservative Party in 2015, 2017, and 2019 or voting Leave in 2016. A binary logistic regression model was selected as opposed to the multilevel model selection for Study 1, because there were not sufficient responses in all parliamentary constituencies to justify a multilevel model. As in Study 1, the outcome variables are again vote choice, specifically for the Conservative Party in 2015, 2017, and 2019, and for Leave in 2016.

Sample

The sample for each election year is narrowed to voters who are undecided in an early wave of the BES, who later make a voting decision, and who report that vote choice in the BES wave directly following each year's election⁶. The sample sizes for each election year vary between as many as 1,226 undecided voters in 2015 and as few as 716 in 2016 (see Table 30).

Table 30: Sample sizes and descriptive statistics of undecided voters within BES waves preceding each election

<i>Election year</i>	<i>Total individual responses</i>	<i>% Female</i>	<i>Mean age</i>
2015	1,226	56%	54
2016	716	62%	52
2017	1,180	57%	52
2019	951	58%	53

⁶ For the 2015 General Election, undecided voters were identified in wave 3 of the BES, collected in September and October 2014, approximately seven to eight months before the election. For the 2016 referendum on EU membership, undecided voters were identified with wave 7 of the BES, collected in April 2016, approximately two months before the referendum. For the 2017 General Election, undecided voters were identified in wave 10 of the BES, conducted in November and December 2016, approximately six to seven months before that snap election held in June 2017. For the 2019 General Election, undecided voters were identified in wave 15 of the BES, collected in March 2019, approximately nine months before that snap election.

Study 2 Results

In each election analysed, between one and four group-based preference variables were significant predictors of eventual vote choice among undecided voters. The models, including all previously used demographic, left-right ideology, and group-based preference variables, have modest, yet nontrivial goodness of fit (with pseudo R^2 values between 0.23 and 0.36) for predicting the ultimate vote choices in General Elections (see Table 31). However, the model for the 2016 referendum did not perform as well (with a pseudo R^2 value of 0.06) for undecided voters' ultimate vote choice (see Table 31).

Left-right ideology remained the best predictor of undecided voters' ultimate vote choice in all three General Elections but was not a significant predictor in the 2016 referendum model. Which specific group-based preferences were significant predictors in each year varied. In 2015, English identification (positive association), authoritarianism (positive association), and support for wealth equality (negative association) were significant predictors. In 2017, English (positive association), British (positive association), and European (negative association) identifications as well as support for wealth equality (negative association) were significant predictors of undecided voters' ultimate vote choice. Lastly, in 2019, English (positive association) and European (negative association) identifications, authoritarianism (positive association), and support for social equality (negative association) were significant predictors. These results indicate that each group-based preference was a useful addition to predicting undecided voters' later vote choice, yet in different years.

Table 31: Binary logistic regression models predicting vote choice reported post-election among voters who were undecided in earlier months

	<i>2015 Con</i>	<i>2016 Leave</i>	<i>2017 Con</i>	<i>2019 Con</i>
<i>Age</i>	0.01*	-0.01	0.00	0.03**
<i>Gender</i>	0.07	-0.12	0.22	-0.25
<i>Ethnicity (White)</i>	-0.16	0.02	0.07	-0.14
<i>Holds university degree</i>	0.15	-0.39*	-0.06	-0.15
<i>Employed</i>	0.17	-0.04	-0.21	0.13
<i>Left-right ideology</i>	0.56***	0.01	0.48***	0.54***
<i>English identification</i>	0.12**	0.05	0.13***	0.09*
<i>British identification</i>	0.08	0.08	0.15*	0.12
<i>European identification</i>	-0.01	-0.24***	-0.19***	-0.43***
<i>Authoritarianism</i>	0.37**	0.18	0.12	0.32*

<i>Support for social equality</i>	-0.10	-0.13	-0.17	-0.35**
<i>Support for wealth equality</i>	-0.18***	-0.02	-0.13***	-0.04
Constant	-5.68***	0.27	-4.40***	-3.18**
Pseudo R²	0.26	0.06	0.23	0.36

*** p<0.001 ** p<0.01 * p<0.05

Study 3 Methods

Having established the predictive utility of group-based preferences for individual voters as well as specifically undecided voters, we now turn our attention to integrating group-based preferences into election prediction. While the previous two studies rely upon self-reported vote choice at the individual-level, this study shifts to examining election results at the constituency-level to assess and validate the predictive utility of group-based preferences at an electorally relevant level (i.e. parliamentary constituencies) and contexts (i.e. General elections and a referendum).

Design

Like Studies 1 and 2, Study 3 compares the predictive utility of group-based preferences with demographics and left-right ideology. However, in this study, the unit of study is a parliamentary constituency rather than an individual. Therefore, this study requires levels of group-based preferences and right-left ideology for parliamentary constituencies. In order to generate estimates of those, this study employs a version of multilevel regression and post-stratification (MRP) using only constituency-level predictors to produce constituency estimates of group-based preferences and left-right ideology. MRP is a method of small-area estimation which combines multilevel models for individual-level data within areas (e.g. constituencies) with population-level information about distributions of these models' predictor variables within the areas, in order to produce estimates of averages of outcome variables (e.g. vote shares) in the areas (see Hanretty, et al., 2018).

Study 3 utilises the BES waves conducted during the months preceding each of the 2015, 2017, and 2019 General Elections as well as the 2016 referendum (Fieldhouse, et al., 2020), 2011 census information, General Election results, and constituency estimates of Leave vote share (Hanretty, 2016). Analysis was limited to the 632 constituencies in England, Scotland, and Wales and did not include Northern Ireland.

Procedure

First, constituency-level estimates of group-based preferences and left-right ideology were generated. To be clear, MRP is not used in this study to generate estimates of vote intention; rather I use MRP to create constituency-level estimates of group-based preferences, without using previous election results or vote share.

Beginning with individual levels of group-based preferences and right-left ideology, multilevel models with mixed effects were fit for the group identifications and ideological orientations, using individual responses to the corresponding BES survey items measuring English, British and European identifications, authoritarianism, support for wealth equality, support for social equality, and left-right ideology. Mixed effect multilevel models were selected to allow for both fixed and random effects among the participants clustered within their parliamentary constituencies. Demographic and geographic variables for the individuals' parliamentary constituency were used as the predictors or independent variables in these models. In a comparison of MRP techniques, Hanretty, Lauderdale, and Vivyan (2018) confirm that this use of constituency-level predictors can produce comparable results to those produced with individual-level predictors and post-stratification for applications to UK parliamentary constituencies.

These constituency-level predictors were selected through a series of likelihood ratio tests, starting with 34 demographic and socio-economic variables from the 2011 UK Census, including all available measures of ethnicity, religion, university education, employment level, and economic deprivation as well as a sub-set of the variables available describing the nature of the household (i.e. occupants of a household are married, own house with mortgage, etc). Importantly, no previous election results or electorally related data were used to generate these constituency estimates. This list was narrowed down to 15 variables, by removing the variables whose absence did not significantly affect the model outputs. In addition to those 15 demographic and socio-economic variables from the 2011 UK Census, the models also include regional dummy variables for all regions in Great Britain: East, Southeast, London, Southwest, West Midlands, East Midlands, Northwest, Yorkshire, Northeast, Scotland, and Wales. This common set of demographic, socio-economic, and regional variables were used across all multilevel models used for the first step of producing MRP estimates as the independent variables in the multilevel models. In the final step of poststratification, the outputs of the multilevel modelling (i.e. the coefficients from the multilevel models for each parliamentary-level predictors from the UK Census and regional dummy variables) were then used to produce values for each parliamentary constituency, generating constituency estimates of group-based preferences and left-right ideology.

These constituency estimates were then used in the primary analysis of this study (i.e. as constituency-level predictor variables in models for constituency-level vote shares.). We fit linear regression models with key demographics, MRP estimates of left-right ideology, and MRP estimates of group-based preferences to predict Conservative Party vote share in the 2015, 2017, and 2019 General Elections as well as the vote share for Leave in the 2016 EU referendum.

Materials

Study 3 uses the same survey items from the BES, as listed in Table 23, for each election between 2015 and 2019. As outlined in Appendix 1, estimates for 2015 were generated using responses to waves 1 through 5 of the BES, and 2016 estimates were created with waves 7 and 8. Estimates for 2017 were generated using waves 10 through 12, and estimates for 2019 were created with responses to waves 14 and 15. Responses to waves closer to the date of the election were prioritised over responses from earlier waves.

In one instance, the necessary survey item was not included in the wave immediately preceding the corresponding election, and so responses from a wave the following year were used. The responses used to generate the European identification were from wave 7, conducted April and May 2016, approximately one year following the 2015 election. In all other cases, the responses used were collected in the 12 months preceding the election.

The demographic data for parliamentary constituencies is from the 2011 UK Census (ONS, 2016). The specific 2011 census variables included in the multilevel models are the constituency's proportion of degree-holders, women, employed residents, residents born in the UK, retirees, married households, house ownership with mortgage, ownership of no cars, residents of Asian ethnicity, residents of Black ethnicity, residents of Bangladeshi ethnicity, Muslim residents, Hindu residents, residents practicing no religion, a measure of population density, and the regional dummy variables. Again, no previous election results were used as predictors.

Lastly, for the primary analysis, we use the vote share for the Conservative Party in 2015, 2017, and 2019 as well as the Leave vote share modelled for parliamentary constituencies in 2016 (Hanretty, 2016).

Sample

To generate constituency estimates, MRP requires a large national sample with sufficient respondents from each sub-national area, such as parliamentary constituencies. The BES provides

ample sample sizes for each year (see Table 32), sufficiently distributed across all constituencies in England, Scotland, and Wales.

Table 32: Sample sizes for multi-level models used to produce the constituency estimates

<i>Social psychological attitude</i>	<i>Year</i>	<i>Total individual responses used in each multi-level model</i>
<i>Left-right ideology</i>	2015	32,164
	2017	37,589
	2019	50,387
<i>English identification</i>	2015	35,537
	2017	44,744
	2019	55,276
<i>British identification</i>	2015	35,609
	2017	44,798
	2019	55,354
<i>European identification</i>	2015	21,762
	2017	44,428
	2019	54,835
<i>Authoritarianism</i>	2015	32,959
	2017	30,077
	2019	32,072
<i>Support for wealth equality</i>	2015	34,412
	2017	36,687
	2019	55,838
<i>Support for social equality</i>	2015	32,731
	2017	39,024
	2019	46,048

Analysis

Linear regression models predicting constituency-level vote share for the Conservative Party and Leave were fit and compared using demographic variables of all constituencies in Great Britain, the left-right ideology constituency estimate, the constituency estimates of group-based preferences, and a combination of all variables. This process was followed for the General Elections in 2015, 2017, and 2019 as well as the 2016 Brexit referendum.

Study 3 Results

In all elections analysed, the models fit with group-based preference constituency estimates are either equally predictive or more predictive of Conservative Party and Leave vote shares than the models with either demographics or left-right ideology. The R^2 statistics for the group-based preference models ranges from 0.73 in the 2017 General Election (see Table 35) and 0.86 in the 2016 EU referendum (See Table 34). For each election, adding the key demographics and left-right ideology to group-based preferences only yielded a slightly more predictive model than the model with only the group-based preferences.

Like previous results, the group-based preferences which act as the strongest predictors vary from year to year. Because of the collinearity of the constituency-estimates of left-right ideology and group-based preference, we cannot compare the magnitude of the coefficients and instead will report the significant predictors from each year (see Tables 33 – 36) and later, compare the overall predictive power of the specific models (see Table 37).

In the 2015 model with all variables, left-right ideology and authoritarianism are significant predictors of Conservative Party vote share, as well as the percentage employed in the constituency, the level of English identification, population density, and the percentage of female residents (see Table 33). In 2016, the percentage of the population with a university degree was a significant predictor of Leave vote share, with European identification, left-right ideology, support for wealth equality, population density, English identification, and the percent employed also remaining significant in the model of all variables (see Table 34). In 2017, all group-based preferences are significant predictors except British identification and support for social equality, and all demographics are significant except the female percentage of the constituency population and the percentage with a university degree (see Table 35). Lastly in 2019, all group-based preferences were significant predictors except for support for wealth equality, and all demographics were significant predictors except female percentage of the constituency population and the percent with a university degree (see Table 36).

Table 33: Comparison of regression models predicting 2015 Conservative Party vote share

	<i>Demographic variables</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All variables</i>
<i>Percent female</i>	-0.02			0.05*
<i>Percent with degree</i>	-0.17***			-0.10
<i>Percent employed</i>	0.65***			0.25***
<i>Population density</i>	-0.33***			-0.12*
<i>Percent born in UK</i>	-0.33***			0.06
<i>Left-right ideology</i>		0.79***		0.61***
<i>English identification</i>			0.20***	0.16**
<i>British identification</i>			0.02	0.12
<i>European identification</i>			0.07	-0.07
<i>Authoritarianism</i>			-0.33**	-0.58***
<i>Support for wealth equality</i>			-0.65***	-0.12
<i>Support for social equality</i>			-0.41***	0.05
<i>R²</i>	0.49	0.62	0.75	0.79

Table 34: Comparison of regression models predicting Leave vote share in the 2016 EU referendum

	<i>Demographic variables</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All variables</i>
<i>Percent female</i>	-0.04*			-0.03
<i>Percent with degree</i>	-0.99***			-0.60***
<i>Percent employed</i>	0.19***			0.06*
<i>Population density</i>	-0.02			0.14***
<i>Percent born in UK</i>	-0.10***			0.03
<i>Left-right ideology</i>		0.56***		-0.20*
<i>English identification</i>			-0.02	0.11*
<i>British identification</i>			0.26***	0.00
<i>European identification</i>			-0.51***	-0.36***
<i>Authoritarianism</i>			0.51***	-0.02
<i>Support for wealth equality</i>			0.07**	-0.19*
<i>Support for social equality</i>			0.25**	-0.14
<i>R²</i>	0.86	0.32	0.86	0.89

*** p<0.001 ** p<0.01 * p<0.05

Table 35: Comparison of regression models predicting 2017 Conservative Party vote share

	<i>Demographic variables</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All variables</i>
<i>Percent female</i>	-0.01			0.04
<i>Percent with degree</i>	-0.27***			-0.06
<i>Percent employed</i>	0.60***			0.21***
<i>Population density</i>	-0.36***			-0.14**
<i>Percent born in UK</i>	-0.17**			0.13**
<i>Left-right ideology</i>		0.80***		0.37*
<i>English identification</i>			0.27***	0.26***
<i>British identification</i>			-0.07	-0.06
<i>European identification</i>			-0.25**	-0.47**
<i>Authoritarianism</i>			-0.68***	-0.66***
<i>Support for wealth equality</i>			-0.51***	-0.24*
<i>Support for social equality</i>			-0.66***	0.04
R ²	0.55	0.64	0.73	0.76

Table 36: Comparison of regression models predicting 2019 Conservative Party vote share

	<i>Demographic variables</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All variables</i>
<i>Percent female</i>	-0.03			-0.01
<i>Percent with degree</i>	-0.45***			-0.03
<i>Percent employed</i>	0.57***			0.12***
<i>Population density</i>	-0.28***			-0.12*
<i>Percent born in UK</i>	-0.16**			0.31***
<i>Left-right ideology</i>		0.83***		0.77***
<i>English identification</i>			0.23***	0.34***
<i>British identification</i>			-0.04	-0.16*
<i>European identification</i>			-0.50***	-0.53***
<i>Authoritarianism</i>			-0.32**	-0.28*
<i>Support for wealth equality</i>			-0.65***	-0.11
<i>Support for social equality</i>			-0.05	0.67***
R ²	0.56	0.70	0.76	0.77

*** p<0.001 ** p<0.01 * p<0.05

When all variables are combined into one model, we observe a number of consistent changes in the coefficients of key variables. For instance, in all four elections, the magnitude of the coefficient for left-right ideology decreases when controlling for all over variables, meaning some variation in the election results is better explained by the demographic or group-based preference variables. While on the other hand, some coefficients remain relatively stable. The coefficients for authoritarianism, for instance, remain at relatively stable levels for the 2017 and 2019 General Elections, but are insignificant in the full model for the 2016 EU referendum. Also in the 2015 General Election, the coefficient for authoritarianism actually increases in magnitude once we control for all other variables. This suggests that while the authoritarianism estimates (or other group-based preferences) may explain some variation in election results better than left-right ideology, the inclusion of the estimates of left-right ideology does not always weaken the coefficients for authoritarianism.

More importantly, the overall predictive ability of the group-based preferences was equal or superior to that of the models fit with either demographics or left-right ideology. Table 37 presents the R^2 statistics for each model and illustrates that the addition of key demographics and left-right ideology to group-based preferences only provides a minimal increase in predictive ability. In 2015 and 2017, the group-based preferences model is considerably more predictive than the other two. In 2016, the group-based preferences model performs equally well as the demographics model and considerably better than the left-right ideology model. Lastly in 2019, the group-based preferences models performs slightly better than the left-right model and considerably better than the demographics model.

Table 37: R2 statistics for all regression models

<i>Year</i>	<i>Party vote share</i>	<i>Demographic variables</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All variables</i>
2015	Con	0.49	0.62	0.75	0.79
2016	Leave	0.86	0.32	0.86	0.89
2017	Con	0.55	0.64	0.73	0.76
2019	Con	0.56	0.70	0.76	0.77

Appendix 2 includes R^2 statistics for the models predicting the vote share of relevant right-wing parties in each election year, specifically the Conservative Party and the UK Independence Party

(UKIP) in 2015 and 2017 and the Conservative Party and Brexit Party in 2019. In that extended analysis, the group-based preference constituency estimates are again equally or more predictive of right-wing parties' vote shares than the demographics and left-right ideology.

Discussion and conclusion

These results demonstrate that group-based preferences are as or more helpful in predicting vote choice and vote share in various elections as key demographics and left-right ideology. This approach utilizes a set of core group-based preferences that have strong and consistent predictive ability on both the individual level of vote choice and constituency-level of election results. These group-based preferences identify key ideological dimensions which are being activated and mobilised in varying election conditions. Put another way, which group-based preferences are more predictive than others varied with the election year, supporting a theoretical foundation built upon both Social Identity Theory (SIT; Tajfel & Turner, 1979) and the Dual Process Motivational (DPM; Duckitt & Sibley, 2010b) model.

The application of these theories to predicting British elections operationalises the SIT and DPM models and reinforces the theoretical claims of those frameworks. While the present study is focused on election prediction and the utility of group-based preferences to aid in that, we can return to the theoretical foundations of these models to better understand the overall dynamics of voting. The principal orientations that we draw upon to make decisions for the leadership of society relate to our preferences for how our group or society should be organised, how equal or hierarchical society should be, and how much we identify with the overall shared group (see Baron, et al., 2022b). This approach focused on “group-ishness” accounts for complex perspectives and varied preferences of individuals, living in varied societies. It accounts for differences in perceived position within or outside of relevant shared group identities, differences in perspectives on authority and tradition, and differences in predilections for the distribution of resources and rights.

Measuring and comparing the relative relationship between these group-based preferences and vote choice over the course of many elections provides context for which aspects of our broader political ideology are being activated and mobilized during particular elections. The reasons why certain group-based preferences have been mobilized in particular electoral contexts can be related to the political candidates themselves or to the general climate of the election, which could be influenced by endogenous factors, such as expansion or constriction of a welfare state, or

exogenous factors, such as natural disasters or military attacks from a foreign adversary. For instance, European identification becomes a helpful predictor of vote choice and vote share in the General Elections of 2017 and 2019, following the EU referendum in 2016, but it is not strongly associated with vote choice or vote share before this referendum in 2015.

This “group-ishness” approach also indicates which policy areas we should expect to be important to voters and/or highly contentious in political debate. In a novel survey experiment on which issues the British electorate cares about most, Hanretty, et al., (2020) found that among 34 policy areas, the four most important issues were the death penalty, the UK’s relationship with the EU (or Brexit), nuclear forces, and immigration levels. From the “group-ishness” perspective, policy opinions on the death penalty and the use of nuclear weapons are shaped by our level of authoritarianism and more specifically, the sub-dimension of authoritarianism focused on the submission to (the state’s) authority (for example, see Laponce, 2019). The Brexit debate tapped into the fundamental question of national identity, whether the UK was European or not (for example, see Dennison, et al., 2020), and immigration policy opinions stem from preferences for hierarchy between ingroup members (native nationals) and out-group members (immigrants; Newman, et al., 2014). From this perspective we would expect issues that are not inherently linked (or have not yet been rhetorically linked) to group membership and organisation should not be as important to voters, and indeed, Hanretty and colleagues (2020) find that macro-economic policy issues, such as bank insurance, inflation, or international trade, are among the least important issues to the British electorate. As another example, studies on political preferences and environmentalism, an issue lacking a group framing, are, sometimes report a weak association between that issue and political preferences, but more generally, indicate those associations are inconsistent across electoral contexts and years (for a review, see Cruz, 2017).

The results of this study also have implications for public opinion polling and election prognostication. The inclusion of these group-based preferences in election prediction modelling can improve the accuracy of the predictions, and importantly, they also provide a way to analyse undecided voters early in an election cycle. Since these predictions do not rely on previous election results, they can also be particularly helpful in making election predictions when new district or constituency boundaries have been drawn and no previous election results are available. Just as demographics and left-right ideology have become standard measures in election polling and prediction, so should group-based preferences. The evidence presented in this paper justifies their predictive ability and the additional insight provided when measuring and assessing these dimensions of group-based preferences in multiple election settings.

The application of this theoretical approach should be considered in further research, especially in national contexts with different dynamics regarding national or dominant identities. Moreover, it would be worthwhile to investigate the utility of other group identities, such as ethnic or racial identities as well as religious identities, in election predictions. Further research is needed to identify the appropriate method for integrating constituency estimates of group-based preference into the process of generating vote share estimates with MRP. They could potentially be included as constituency-level predictors (independent variables) in the first stage of multilevel modelling, and this method would need to be validated in an election setting. Overall, an augmented focus on the social psychological forces which influence and shape our voting behaviour will benefit the study and prediction of elections, just as this study has highlighted the utility of group-based preferences in predicting vote choice and vote share in British elections.

Appendices

Appendix 1: British Election Study waves used in Studies 1, 2, and 3

Table 38: Waves used in Studies 1 & 3

Election year	Waves used	Timeframe of pre-election data collection
2015	Waves 1 – 5	February 2014 – May 2015
2016	Waves 7 – 8	April 2016 – June 2016
2017	Waves 10 – 12	November 2016 – June 2017
2019	Waves 14 – 17	May 2018 – November 2019

Table 39: Waves used in Study 2

Election year	Undecided voters identified pre-election	Final vote choice identified post-election
2015	Wave 3, September – October 2014	Wave 6, May 2015
2016	Wave 7, April 2016	Wave 9, June 2016
2017	Wave 10, November – December 2016	Wave 13, June 2017
2019	Wave 15, March 2019	Wave 19, December 2019

Appendix 2: R² statistics for the models predicting right-wing parties vote share

Appendix 2 includes R² statistics for the models predicting the vote share of relevant right-wing parties in each election year, specifically the Conservative Party and the UK Independence Party (UKIP) in 2015 and 2017 and the Conservative Party and Brexit Party in 2019.

Table 40: R2 statistics for all regression models of right-wing parties

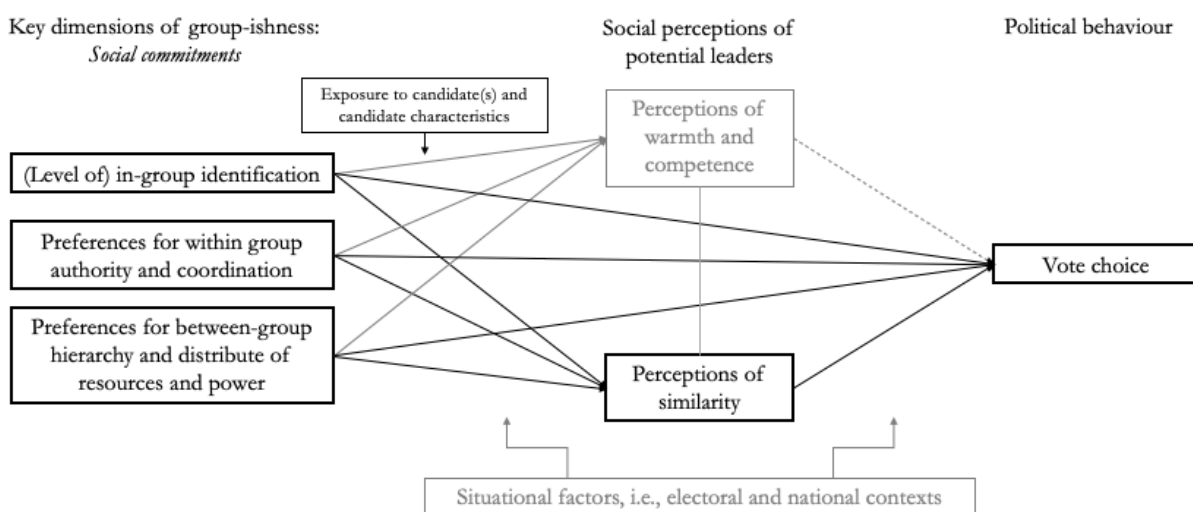
<i>Year</i>	<i>Party vote share</i>	<i>Demographic variables</i>	<i>Left-right ideology</i>	<i>Group-based preferences</i>	<i>All variables</i>
2015	Con	0.49	0.62	0.75	0.79
	Con & UKIP	0.49	0.72	0.78	0.81
2016	Leave	0.86	0.32	0.86	0.89
2017	Con	0.55	0.64	0.73	0.76
	Con & UKIP	0.56	0.66	0.73	0.76
2019	Con	0.56	0.70	0.76	0.77
	Con & Brexit Party	0.60	0.71	0.78	0.79

6. Discussion and conclusion

In addition to the specific implications of each paper, the theoretical framework and findings in this thesis have overall consequences. This thesis contributes to the increasing traditions of pluralist frameworks of political attitudes, which suggest vote choice and related political attitudes are shaped by a consistent set of factors which vary by individual and context. More specifically, I argue that we prefer leaders who will enact our own preferred vision for society and are repulsed by leaders who endorse conflicting group preferences.

As illustrated in Figure 12, the first paper presented in this thesis established the influence that shared or conflicting social commitments have on vote choice. The second paper confirmed that shared or conflicting social commitments shape perceptions of similarity with the candidate. In this paper we also compared the relative associations of candidate perceptions of warmth, competence, and similarity with vote intention, finding that perceived similarity has a stronger link with vote intention than warmth or competence. The second paper also addressed how varying situational factors, such as different national settings, may influence these relationships, and we found that American and British identification has varying levels of influence on perceived similarity and vote intention. Lastly, the third paper validated the core assumptions of this model in real election settings, showing the importance of such social commitments in voter behaviour in the UK General Elections of 2015, 2017, and 2019 as well as the 2016 referendum on EU membership.

Figure 12: A model of group-ishness for political leader perceptions and voting



As evident in Figure 12, social perception is one of the key processes which underlies the relationship between social commitments and political behaviour. The perceptual model of intergroup relations highlights how social identities shape our perceptions (Xiao, et al., 2016), which in turn influence our behaviours, and my model of group-ishness for political leader perceptions and voting uses a similar framework to describe the specific decision-making process underlying voting. In addition to the role of social identities as highlighted in the perceptual model of intergroup relations, my model suggests that our social commitments influence how we perceive potential leaders, in addition to shaping the resulting behaviours, such as voting. Whereas the perceptual model of intergroup relations explains why visual cues have been relied upon heavily in judgements of political candidates (Xiao, et al., 2016), my model of group-ishness extends to this say that when group-ish cues, and particularly social commitment cues are available, they are more influential on perceptions of similarity with political candidates than visual cues of ethnicity, gender, age, and other visually recognisable demographic characteristics.

An additional theory with which this argument both compliments and critiques is adaptive followership (Laustsen, 2021). The adaptive followership literature suggests that preferences related to within-group coordination are the most important for selecting potential leaders. The studies in this thesis reinforce that aspect of adaptive followership theory, but also go further by demonstrating that we prefer candidates who express *matching* preferences for within-group authority and organisation (i.e. authoritarianism). Contrary to the idea from adaptive followership that social dominance orientation (SDO) and right-wing authoritarianism (RWA) increase preferences for a dominant leader by increasing perceptions of conflict, I find that voters are seeking a leader who matches them along those orientations (i.e. social commitments). This body of work also suggests that we prefer certain types of leaders depending on the circumstances, such a dominant leader during a time of intergroup conflict (Laustsen & Petersen, 2017; Laustsen, 2021). Our analysis in Paper 2, which compares the predictions of our two approaches, indicates that the perception of dominance is less influential on vote intention than *shared* preference for between-group dominance or egalitarianism, as predicted by this thesis' framework. As discussed by Laustsen (2021), when other information is not available, we rely on visual cues of dominance (such as facial shape); however, the evidence presented in Paper 2 demonstrates that direct ideological cues (such as campaign communications) decrease our reliance on such visual cues, and we give superior weight to such explicit ideological cues. Overall, my model compliments adaptive followership while also extending this theoretical area to explain both the attraction to and rejection of dominant leaders.

The framework presented as well as the findings in this thesis also complement Haslam and colleagues' (2020; see also Gleibs & Haslam 2016) Social Identity theory of leadership, by specifying which specific characteristics of the group are especially important for a political leader to represent, namely social commitments to particular groups, preferences for within-group organisation, and preferences for between-group hierarchy. The Social Identity theory of leadership conceptualises leadership as a result of group processes, created by both the leader and follower (Haslam, et al., 2020). The experiment designs used in the first and second papers enable the investigation of leadership as a group process, involving both the followers and the leader, and the results of those papers reinforce this concept of leadership as a group process shaped by the signals and cues from leaders as well as the underlying preferences of followers. This theory of leadership emphasizes the importance of leader group prototypicality, which refers to members of the group perceiving the leader to embody their shared social identity, to be 'one of us' (see Steffans, et al., 2021). A key aspect of this prototypicality is the perception of similarity between the leader and follower, and the second paper of this thesis provides corroborating evidence for the importance of perceived similarity between leaders and followers. Our results demonstrate that shared social commitments (rather than other shared attributes, such as demographics) produce perceptions of similarity, suggesting that the perceived prototypicality of political leaders is shared by followers' social commitments.

The findings in this thesis also demonstrate that ingroup identification is among the most influential factors studied for vote choice, reinforcing a fundamental tenant of Social Identity Theory (SIT; Tajfel & Turner, 1979). Both the first and second papers in this thesis demonstrate that the extent to which we identify with a group predicts whether we will be attracted or repelled by a candidate expressing that group identification. This also pertains to Lipset and Rokkan's conception of cleavages (i.e. divisions between social groups; 1967) and could be said to provide the underlying logic of group-ishness to contextualise why the group dynamics they identified have such a strong influence on voting decisions. Moreover, Lipset and Rokkan suggest that considerable tension between groups at any particular moment in time is what causes that particular cleavage to shape voting, which would explain the effects of European identification in Papers 1 and 2. Given the timeframe of these experiments and the hotly contested debate around Brexit and the European Union within it, this tension provides the contextual explanation for group identification exerting considerable influence on vote choice.

The findings of this thesis reinforce aspects of Campbell and colleagues' seminal work "The American Voter" and the Michigan model, while also critiquing an aspect of it. The results of

Paper 2 indicate that the relative level of voting homophily based on party affiliation suggests that partisan attachment functions in a similar way to other ingroup identification, adding to the evidence characterising partisanship as a “psychological attachment” and social identity. However, this effect of this homophily is relatively comparable to or even potentially less influential than other social commitments included in that experiment, namely authoritarianism, egalitarianism, and national identification. The findings of Paper 1 contradict a key aspect of the Michigan model, specifically that partisanship functions as a lens which influences all political attitudes and behaviours (Campbell, et al., 1960), and instead those findings indicate that our group preferences and overall group-ishness act as that lens for relevant signals from candidates.

A key implication of this pluralist framework concerns the debate between instrumental and expressive partisanship. The “instrumental” camp contends that partisanship is a rational, utility maximising process, in which voters become partisans by identifying the party that will enact their preferred policy solution (for a review see Bankert, 2021). The “expressive” camp, alternatively, argues that partisan identity (somewhat in line with Social Identity Theory) is more appropriately understood as a social identity, which is strengthened by affiliations to other key social groups (such as gender, religious, or ethnic groups) in turn promoting an emotional attachment to the party (for reviews, see Bankert, 2021; Mason, 2018; Huddy & Bankert, 2017).

Instrumental partisanship could be interpreted as an approach that conflicts with this thesis’s group-based approach towards explaining political decisions like voting. Yet, I argue that the group-ish approach integrates both instrumental and expressive forms of partisanship by suggesting that voters are seeking group leaders who have the same attachment to key groups (i.e. shared attachment to political parties, nations, and any other politically relevant ingroups) and the same preferences for how those groups should be organised (i.e. public policies regarding the sources of authority and distribution of power and resources). The framework of expressive partisanship, or even expressive political group identity, corresponds to our use of group identification, implying that politicians resonate the most with us to the extent that they care as much as we do about key social groups. The instrumental framework connects with the within- and between-group preferences (e.g. RWA and SDO as well as other group-based perceptions in Paper 1, such as nationalism, populism), extending it to consider voting for particular party or candidate platforms as a way of realising instrumental goals that are ideological (as opposed to purely economic) in nature.

The conception of group-ishness expands the expressive partisanship framework to include other group identities, especially national identities, and focuses the instrumental partisanship approach to identify which types of policies should be most influential on shaping partisan attachment and vote choice. For instance, our framework of group-ishness explains why belonging to the European Union became such an intensely debated policy; why death penalty policy preferences continue to be highly important to voters (e.g. Hanretty, et al., 2020) despite not being a prominent topic of political debate; and why issues like immigration, welfare, publicly-funded/universal healthcare, and even vaccine distribution are linked with vote choice (e.g. Krosnik, 1988; Häusermann & Kriesi, 2015; Waszkiewicz, et al., 2021). Policies related to group membership, like belonging to the European Union, either support or violate the social identities we prioritize. Policies related to the appropriate sources and uses of authority, like the government's ability to kill criminals or the military's ability to torture enemy combatants, tap into our core preferences on within-group authority. Policies related to the distribution of power and resources, like granting citizenship rights and public funds to immigrants or publicly funded healthcare, tap into our core preferences on between-group distribution of power and resources.

Our group-based approach also contextualises political parties and partisanship as a fundamental politically relevant ingroup and identification, and therefore, inherent to how our coalitional psychology functions in political contexts. Indeed, these are the central groups around which contemporary politics are organised, and decades of political science research confirm the importance of partisanship and between-party animosity in shaping political attitudes and behaviours. This conflicts with the narrative of the personalisation of politics, such as argues that political party and their platforms are becoming less relevant to voting decisions and generally in the political domain. Our findings in Paper 2 contribute to the literature which challenges the idea of party declining in influence. In fact, those findings indicate that the ideological attributes (i.e. party, authoritarianism, egalitarianism, and national identification) are more influential on voters than the personal attributes (i.e. demographics, sexual orientation, parental and marital status), the opposite of what personalisation narratives suggest.

More broadly, the findings in this thesis have implications for how social psychologists and political scientists should continue to unpack the relationship between identity and voting. The influential role that social commitments play in shaping voters' perspectives on candidates (over and above the candidates' demographics) strongly suggests that social commitments supersede demographic categories when we are trying to make sense of information in political contexts.

Social commitments contain the information that voters prioritise in shaping how they perceive leaders, showing what matters in decisions about how much they identify with those leaders.

Observations of group-based social commitments in contemporary political rhetoric

When we view contemporary politics and particularly political communication through this lens, the influential role of group identities, conceptions of authority, and preferences for equality or hierarchy are apparent. We can observe evidence of coalitional psychology and general groupishness in aspects of contemporary politics. Importantly, early human's development of large groups depended on an efficient form of social bonding, which language fulfilled (Hyland, 1993). Therefore, any discussion of our evolutionary predisposition towards this sense of "groupishness" inherently involves communication, and indeed, countless examples of group-oriented rhetoric exist in contemporary politics.

For instance, Theresa May, then Conservative Party leader, used "Strong and Stable" as a slogan in the 2017 snap General Election, which emphasizes two elements of authoritarianism: strong leadership and traditionalism or cultural stability at the centre of society. Recently, French politicians Emanuel Macron and Marine Le Pen have both tapped into key aspects of groupishness with their 2022 slogans. Le Pen directly evoked national identification and even a subtle nod to nationalism with her slogan "Pour tous les francais" or "For all the French (people)". Macron, on the other hand, struck a more communal note which evokes a more egalitarian signal with the slogan "Nous tous" or "All of us".

We can also observe other aspects of groupishness studied in Paper 1 in contemporary political rhetoric. For example, in the 2016 US Presidential Election, Donald Trump deployed a slogan which clearly evoked national nostalgia, "Make American Great Again". In the UK, the Labour Party under Jeremy Corbyn returned to a previously used slogan for the 2017 and the 2019 snap General Elections, "For the Many, Not the Few". This slogan directly evokes a populist sentiment by creating the positively-framed ingroup of "the many" and the negatively-framed outgroup of "the few". These examples illustrate the ways in which groupishness is observable in the political rhetoric and communication efforts of various national electoral contexts.

Application to political campaigning

As a political professional, I prioritised the practical utility and applicability of this research throughout the development and analysis of the studies in this thesis. Each paper produced

findings which can be directly applied to campaign strategy. The first two papers in this thesis primarily provide insights relevant to messaging and communication strategy development. The third paper provides a suggested method to consider group-ishness in target seat selection.

The findings of the thesis suggest that politicians and parties who are able to evoke group-ishness in their communications will both have a greater ability to attract voters while also repelling voters with conflicting group-based preferences. The graphs in Papers 1 and 2 include histograms to demonstrate the relative proportion of voters who would be attracted and repelled by signalling the various group-based preferences. Message development is always a balancing act of attraction and repulsion, and these results provide relatively precise estimates to the positive and negative effects of various group-ish messages.

The selection of constituencies or districts to target with campaign resources is another key aspect of political strategy, and Paper 3 in this thesis suggests a method to integrate our group-ishness framework into the targeting process. Given the ideological positioning of the party, one can identify the constituencies with relatively higher (or lower) constituency estimates of relevant group-based social commitments. Taken together, the findings of Papers 2 and 3 provide guidance on candidate placement (given the profile and priorities of specific candidates) into optimal constituencies. For instance, if a political party is relatively anti-authoritarian, but they have a potential parliamentary candidate who holds relatively more authoritarian views, then the constituency estimates of Paper 3 would provide a list of potential constituencies where it would benefit to have a relatively more authoritarian candidate.

Campaign research and polling strategies would also benefit from the findings of this thesis. Segmentation or cluster analysis of the population has become a popular tool for political campaigns to understand the electorate. My findings would suggest that basing such an analysis on national identification, partisan affiliation, authoritarianism, and egalitarianism would provide insight to the ways in which these group-based preferences cluster or group together, the relative size of these segments in the electorate, and their current vote intention. Segmenting voters into clusters based on groupish-ness would then also improve message testing, which uses survey or field experiments to assess the persuasiveness of different campaign communication materials. Campaign researchers would be able to assess the relative persuasion effect for specific messages among the various segments, because the findings of this thesis suggest that different signals should influence different clusters of voters in different ways.

Further academic work on this topic would benefit from working with political practitioners to apply it in a campaign setting. In addition to the improved external validity, more campaign-based research would illuminate which aspects of group-ishness are particularly sensitive to the differences between countries and election types. Overall, the study of group-ishness and voting decisions is an ideal topic to situate in real-life contexts and provides considerable opportunities for academic impact.

Limitations and missing links

In addition to the contributions of this thesis, it is beneficial to consider what we cannot infer and therefore still do not know following these studies. While each study itself highlights particular limitations, there are three additional overall items worth contemplating. First, this thesis does not attempt to explain the variations of context in which specific identities are activated in political decision-making and which ingroup identifications are therefore important to voting. Second, there are specific un-answered questions about the relationship between policy preferences and group-based preferences. Lastly, this thesis highlights the importance to continue exploration of fundamental social relationships and political attitudes and behaviour.

While this thesis does highlight that the relative influence of ingroup identification and which ingroups are relevant does vary with context, it does not address what about the context elevates the importance of specific ingroups in the voting decision process. In addition to national identification and partisan affiliation, other identities and levels of identification have been closely linked to vote choice in other cultural and historical contexts such class and religious identities (e.g. Orriols, 2013) or new political identities (e.g. “Leavers” and “Remainers”; Hobolt, et al., 2020). Further research should consider both which ingroup identifications are influential in other national contexts as well as what about the specific countries and eras of those elections have caused those ingroup identifications to rise in importance.

Next, a clearer and more precise understanding of the connection between group-based preferences and policy preferences is necessary. This work would build on the aforementioned studies of authoritarianism and egalitarianism which have largely focused on establishing the consistent associations between these group-based preferences and particular policy preferences (Pratto, et al., 2006; Thomsen, et al, 2008; Duckitt et al., 2010; Sidanius, et al., 2016; Scott & Safdar, 2017; Dunwoody & McFarland, 2018; Assche, et al., 2019; Womick, et al; 2019; Castello, et al., 2022) as well as the evidence that certain group-based preferences, specifically related to

hierarchy and equality, are genetically inherited (see Kleppestø, et al., 2019). Yet additional research is needed to fully confirm the line of causation from group-based preference to policy preferences, while importantly accounting for other contributing factors.

Lastly, this thesis validates that certain group-based preferences which related to the forms of fundamental social relationships (i.e. hierarchy and equality preferences; see Fiske, 1992) are indeed influential on voting decisions, but it does not consider all four forms. Research which considers societal-level preferences of those four fundamental social relationships (i.e. authority-ranking, equality-matching, communal-sharing, and market-pricing) has indicated this path is worth pursuing (Sheehy-Skeffington, et al., 2022).

Conclusion

This thesis suggests that voters are seeking out leaders who will enact our group-based preferences, particularly those related to group-based social commitments. To explain the relative influence of the different group-based preferences, this thesis embraces a pluralistic approach. Which group-based preferences are important, particularly which ingroup identifications, will vary by context, and yet a set of group-based social commitments exert a strong and consistent influence on voting. I have provided causal evidence that voting decisions and perceptions of candidates are shaped by voters' identification with particular ingroups, and preferences for authority and hierarchy. I have also validated the utility of these group-based preferences to predict actual election results.

At the outset of this thesis, I did not anticipate that the evolutionary roots of human sociality would be crucial to my study of vote choice and election prediction. I certainly did not anticipate that looking back to the origins of human society would help predict the election results of recent UK General Elections. Guided by the recent political psychology literature and the studies included in this thesis, an evolutionary approach became evident, and the influence of group-based social commitments was undeniable. My conclusion is similar to one reached by Kinder (2006, 2009), who wrote, "Group sentiment is not the only factor in public opinion, but it is almost always present, and of all the diverse opinion ingredients, it is often the most potent."

The key role that group formation and identification play in homo sapiens' survival should not be ignored in the study of political preferences and behaviour. Instead, orienting our research around this fundamental aspect of human nature, group-ishness, allows political psychologists to see how evolutionarily constructed social instincts still influence political behaviour within our complex,

contemporary societies. The findings in this thesis suggest political psychology research will continue to progress in this direction, and in which case, we will continue to uncover how humanity's ancient reliance on groups – belonging to, cooperating within, and competing between social groups – wields a fundamental force in contemporary politics.

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