Elite Rhetoric and the Running Tally of Party-Group Linkages[†]

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Parties' linkages to social groups are key to electoral competition. While traditionally explained in terms of long-standing social cleavages, newer theories assign some role to parties in shaping group linkages. We argue that party elites have even more influence over group linkages than afforded in existing accounts: citizens infer group linkages from 'running tallies' of recent group appeals in elite rhetoric. To test this theory, we develop a novel automated approach that uses language models to measure group appeals observationally. Using data from the UK, we connect citizens' perceived group linkages in surveys to group appeals in parliamentary speech spanning three decades. We find that group linkages robustly track party elites' rhetoric. The association is strongest for group appeals with policy content and among recent news media consumers. Our findings imply that party elites have considerable power to shape group linkages, even in the short run.

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In early 2024 Keir Starmer, leader of the UK Labour Party, addressed members of Jewish Labour, a party membership organization representing the Jewish community. Starmer appealed directly to the Jewish community: "I dragged my party away from the abyss, and I will never let Britain go anywhere near it either. This country will be safe for you and your children". With his speech, the Labour leader sought to signal to voters that the Labour Party looks after the interests of the Jewish community. More generally, the speech exemplifies politicians' efforts to use rhetoric to forge party-group linkages, i.e. widely perceived links between parties and voter constituencies defined by shared group affiliation.

Efforts to forge or strengthen linkages between parties and social groups are understandable in light of the centrality of groups in public opinion. (In the interest of fluency, we refer to party-group linkages in the following simply as 'group linkages'.) Both classic (Converse 1964) and more recent (Elder and O'Brian 2022; Mason, Wronski and Kane 2021) studies point to perceived group linkages as a key ingredient of party reputations. As a consequence, party leaders have an incentive to rhetorically portray their party as a steward of the interests of social groups within their constituency or groups that are well-liked among their supporters or in the broader electorate (Huber 2022; Stuckelberger and Tresch 2024). But are such efforts likely to succeed?

Political scientists have tended to view this question with skepticism. Classical cleavage theory in the tradition of Lipset and Rokkan (1967) sees parties as mostly stable expressions of social group conflict and group linkages as reflections of these cleavages. Exemplifying this view, Lipset and Rokkan (1967) stress that once "established and entrenched, it will prove difficult to change" parties' ties to social groups (p. 30). As group linkages across Western democracies have nonetheless undergone substantial transformations since Lipset and Rokkan (1967), scholars have sought to develop alternative accounts. One strand of modern cleavage theory emphasizes bottom-up changes in the underlying social structure such as shifting class structures (Oesch 2006), the emergence of new cleavages beyond class (Bornschier et al. 2021; Stubager 2009), and increasingly cross-cutting social identities (Dassonneville 2023). This approach, however, leaves little room for party repositioning (Evans 2013; Hooghe and Marks 2018). Another strand, the 'political choice

approach', does emphasize the role of parties' changing ideological platforms as a top-down driver of change (Evans and Tilley 2012, 2017). Even in this tradition, however, changes in group linkages are typically understood as unfolding gradually, at the level of electoral cycles (Westheuser and Zollinger 2024) and have mostly been studied in terms of broader shifts in party strategy. This implies that outside of these longer-run, gradual changes, parties are limited in their ability to actively compete on this important dimension of electoral politics.

In this paper, we provide new theory and evidence on how public perceptions of group linkages change in response to elite rhetoric. Specifically, we argue that group appeals, i.e., valenced references to social groups in public speech, offer an effective medium for parties to convey group linkages. (We use 'valence' in the psychological sense, i.e., loaded with positive, neutral, or negative affect). Further, we posit that citizens notice and update 'running tallies' of group linkages based on recent party rhetoric, similar to the well-described running tally conceptualization of party performance (Fiorina 1981). The key implication is that group linkages respond to group appeals in elite rhetoric. As such, parties have latitude to shape electorally important perceptions among voters, even in the short term.

To test this theory, we examine how public perceptions of group linkages as expressed in British election surveys track party elites' group appeals in speeches in the UK House of Commons. (Note that our conceptualization of 'elites' encompasses all prominent elected party officials, e.g., all party MPs not limited to the party's leading figures.) We measure the latter using a novel, automated approach to measuring group appeals in political rhetoric. Consistent with our expectations, we find that perceived group linkages in the electorate robustly track group appeals in parliamentary speech: our estimates imply that making references to a given group more positive by one standard deviation is associated with around 12 percentage points stronger perceived group linkages. In further analyses, we find these effects to be driven by group appeals to especially religious, class, and age groups, in line with research on the role of elites in shaping religion and class cleavages in Western democracies (Evans and Graaf 2013). We also provide a rare test of the theoretical claim that group appeals are more credible and thus effective when they are 'substantive', i.e.,

include a mention of policy (Thau 2021). While purely 'symbolic' appeals are effective on their own, substantive appeals appear to be more effective by an order of magnitude. Still, we find that controlling for changes in party policy towards the groups we study does not diminish the overall relationship.

We build on recent work examining how elites shape voter cleavages. Studies within the aforementioned 'political choice' approach emphasize the role of changing party platforms in shaping class voting in the UK (Evans and Tilley 2012, 2017) as well as class and religious voting across Western democracies (Evans 2013; Evans and Graaf 2013). Another body of work emphasizing the role of elites is the nascent literature on 'group appeals' (e.g., Dolinsky 2023; Horn et al. 2021; Stuckelberger and Tresch 2024; Thau 2023). We are thus not the first to consider the role of elite rhetoric in shaping group-based voting.

However, the existing literature has not directly examined whether and how group linkages change as a result of party rhetoric. The modern cleavage literature has described how social groups have changed their alignment to parties but has not examined the influence of elite rhetoric (Bornschier et al. 2024, 2021). The group appeals literature, on the other hand, has mostly focused on explaining parties' use of group appeals as an outcome rather than its downstream effects (Huber 2022; Huber and Haselmayer 2024; Stuckelberger and Tresch 2024; Thau 2019). Recent experimental work provides evidence for effects of group appeals on political attitudes but considers effects on either policy support (Huber, Meyer and Wagner 2024) or candidate-specific perceptions (Robison et al. 2021).

Most pertinently, Thau (2021) examines how class voting declined as Labour Party rhetoric turned away from the working class and towards business interests under Tony Blair. However, the study considers the 'reduced-form' association between party rhetoric and class voting without examining group linkages per se. More importantly, this and much other evidence for the top-down perspective comes from Tony Blair's transformation of the UK Labour Party with respect to class groups, a special case of a large-scale party rebranding that was famously a years-long, highly costly, and intensely contested effort (Coates 2005). Thus, little remains known about the

malleability of group linkages in the short term and outside of rare, major party rebranding efforts.

Taken together, we contribute to the existing literature in a number of ways. Theoretically, we extend the concept of a cognitive 'running tally' to the concept of group linkages, which helps explain their short-term responsiveness to group appeals. We contribute methodologically by developing a new approach using language models to capture group appeals in speech with high accuracy. This approach can be used by scholars to study group appeals observationally at scale to address other substantive questions. To this end, we make our fine-tuned model publicly available.[1] Empirically, we provide novel descriptive evidence of parties' use of group appeals, and we document a robust association between these appeals and group linkages, a finding which suggests group linkages are more responsive to short-run changes in elite rhetoric than previously appreciated. Our empirical findings also speak to an ongoing debate in the group appeals literature about the role of policy content in group appeals. Briefly put, we find that while purely symbolic appeals do in fact shape group linkages, the estimated effect of 'substantive' appeals that explicitly reference policy is roughly an order of magnitude greater.

We stress that while we find that group linkages are malleable, this does not imply that they are highly variable in practice. In fact, as we show below, group linkages are only moderately time-varying. How do our findings square with this relative stability? To the extent that group linkages are "sticky" (Adams 2012; Hooghe and Marks 2018, p. 119), our results suggest this is not because parties cannot effectively change voters' minds. Rather, it is because parties are constrained in what they can credibly communicate. We revisit the question of constraints on group linkages below.

We proceed as follows. In the next section, we develop our theoretical account of how group appeals shape group linkages. In the following section, we present our strategy for eliciting group linkages from surveys and group appeals from parliamentary speech, as well as our modeling strategy. We also present a validation exercise demonstrating that parliamentary speech is in our case a reliable proxy for public-facing communication. We then present descriptive results and regression estimates. We also present auxiliary analyses testing heterogeneity across group types

[1]The model is available for use on the machine learning platform HuggingFace: [URL redacted for review]

and the moderating role of explicit policy references. In the concluding section, we draw out the main implications of our findings and suggest possible directions for future work.

How Group Appeals Shape Group Linkages

Political parties play a key structuring role in politics (Dalton, Farrell and McAllister 2011). By having distinct profiles on policy issues and connections to different groups in society, parties help citizens simplify complicated political decisions. By resorting to simplified "mental pictures" of what parties stand for and who they represent, voters need not know all the details about every issue position of every party to know who to vote for (Christensen, Skytte and Slothuus 2023; Lupia and McCubbins 1998). These collections of mental pictures, commonly known as *party reputations*, are ubiquitous in electorates across various countries and party systems (Ahler and Sood 2018; Brewer 2010; Dalton, Farrell and McAllister 2011; Goggin, Henderson and Theodoridis 2020; Nicholson and Segura 2012; Rothschild et al. 2019).

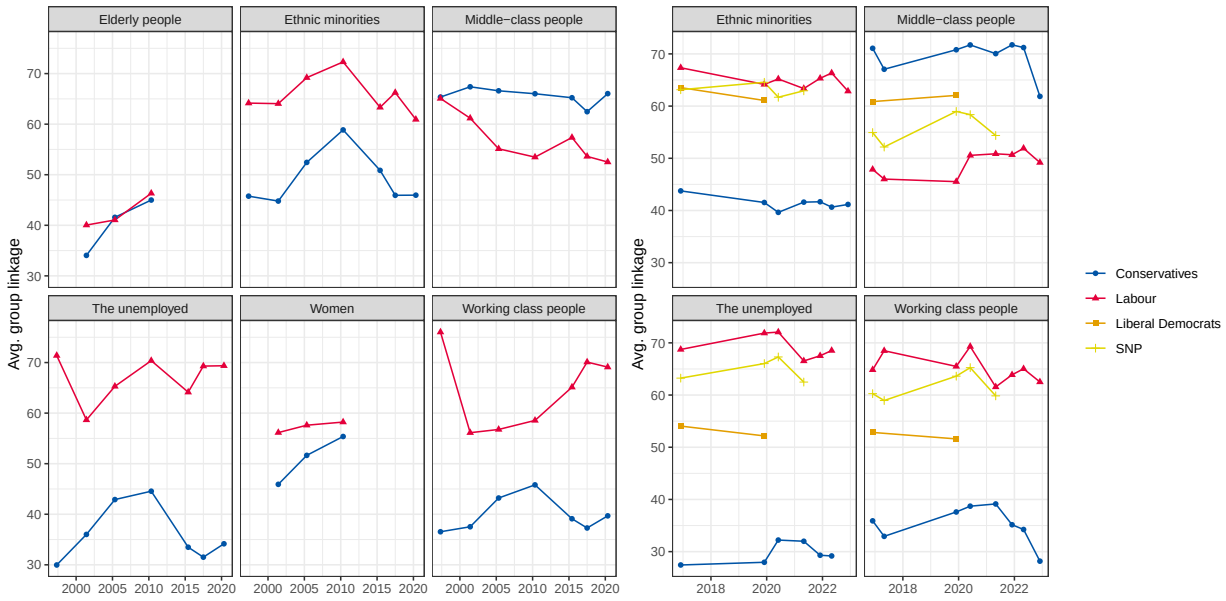
A key component of a party's reputation is the perception of *whom* the party represents, sometimes referred to as its "constituency-based ownership" (Petrocik 1996; Stubager and Slothuus 2013) or *group linkages* (Miller, Wlezien and Hildreth 1991; Thau 2019). Going back to Converse (1964), a long line of research has found these perceived connections between parties and social groups to be central for voters' reasoning about politics (Dalton 2018; Klar 2013; Miller, Wlezien and Hildreth 1991). Group linkages first and foremost shape party choice. When asked directly, perceptions of parties' group ties are one of the main reasons voters cite for their vote choice (Dalton 2018). According to one influential theory, voters have long-standing symbolic attitudes towards various groups, and group linkages help them translate these affective stances to parties and policies (Sears 1993). In this way, group linkages allow voters to simplify complicated voting decisions (Brady and Sniderman 1985; Converse 1964; Skytte, Slothuus and Christensen 2024).

Beyond vote choice, group linkages also shape how voters interpret policy and new issues emerging on the political agenda. If a new policy is opposed by a party with a reputation for representing e.g. the elderly, citizens are able to make accurate inferences about the policy's con-

sequences for the elderly despite knowing little about the policy's substance (Brady and Sniderman 1985; Christensen, Skytte and Slothuus 2023; Lupia and McCubbins 1998). Group linkages are thus a powerful tool for citizens to reason about parties as well as politics more broadly.

How group linkages change

Given the importance of group linkages for political behavior, it is central to understand how they are formed and when and why they change. Consider Figure 1, which shows trends in group linkages in the two data sources we study here, the British Election Study (BES, left panel) and the BES Internet Panel (BESIP, right panel) covering the period 1997-2022 (Fieldhouse et al. 2023, 2022). We elaborate on the measurement below, but briefly put, group linkages capture respondents' perception that a given party "looks after the interests of" a given group on a 4-point scale. We rescale this item to a 0-100 scale to facilitate interpretation. Because time scales, parties, and groups queried differ between the two data sources, we present them separately.



(a) British Election Study (BES) data. **(b)** BES Internet Panel (BESIP) data.

Figure 1: Group linkage trends in the British Election Study (BES, left panel) and the BES Internet Panel (BESIP, right panel), wave/survey averages. In each case, averages reflect answers to the question "How closely do you think the <party> looks after the interests of <group>" (rescaled to a 0-100 scale). For more details, see 'Measuring group linkages' below. Only parties and groups with observations across multiple years are plotted.

As shown in Figure 1, group linkages exhibit non-trivial variability over time. While the lines rarely cross, the changing size of the gaps between parties can carry substantial electoral implications. For instance, the narrowing of the gap between Labour and the Conservatives' working class linkages from 1997 to 2005 was famously electorally significant (Evans and Tilley 2012, 2017; Thau 2021). What drives such changes in group linkages?

While little empirical research has examined changes in group linkages directly, this question is closely related to the large literature on changes in group-based voting. Two competing perspectives dominate this literature. On the one hand, cleavage theory in the tradition of Lipset and Rokkan (1967) considers changes in group-based voting to be a matter of "epochal structural shifts" (Westheuser and Zollinger 2024, p. 4) and "gradual trends" (Evans 2013, p. 635) driven by 'bottom-up' changes in the social structure (Bornschier et al. 2021; Oesch 2006; Stubager 2009). On the other hand, the 'political choice' perspective emphasizes the role of 'top-down' changes in party strategy, which can produce changes at the more granular level of electoral cycles (Evans 2013; Westheuser and Zollinger 2024). A shared assumption across both perspectives is that group linkage perceptions are somewhat sticky and require either structural changes or concerted strategic efforts by party elites to change. In the following section, we lay out an alternative mechanism by which group linkages change in response to short-run changes in political rhetoric.

Group linkages and group appeals

Building on the top-down view, we argue that group linkages respond to the way parties communicate publicly about groups. Rhetorical appeals to groups are abundant in party communication (Dolinsky 2023; Huber 2022; Stuckelberger and Tresch 2024; Thau 2019) and they provide signals to voters of which groups a party cares about and represents, and which groups they do not. These rhetorical signals are effective exactly because they are ubiquitous (Thau 2019) and require no or little political or subject-specific knowledge for citizens to make sense of. In addition, as instances of valenced speech, group appeals will typically have some emotional or moral charge making them more likely to leave a psychological impression (Lipsitz 2018; Potter, Lang and Bolls 2008; Scott, O'Donnell and Sereno 2012).

In the conceptual language of Fiorina's (1981) influential theory of party identification, we suggest that voters keep 'running tallies' of parties' use of group appeals over time, and that these tallies help shape perceptions of group linkages. As a given party makes positive and negative appeals to a given group, voters sum over recent appeals to assess the current valence of the party's linkage with the group. Much like the pocketbook, group appeals in political speech are easy to decode, and voters need only evaluate a recent window of such rhetoric to estimate the party's current stance towards the group. In this sense, the running tally serves as a low-effort heuristic for the broad electorate to update or reconstruct their perceptions of parties' group linkages.

This notion of group linkages as responsive to running tallies of elite rhetoric builds on the emerging literature on group appeals. Our theory can thus be seen as an operationalization of a key mechanism in this literature (e.g., Dolinsky 2023; Horn et al. 2021; Stuckelberger and Tresch 2024; Thau 2019). As Thau (2021) argues, group appeals affect voting because they "prime [citizens] to think about politics in terms of these same group categories and how they relate to parties" (p. 677) and directly provide the "interstitial 'linking' information indicating why a given party or policy [proposed by that party] is relevant to [a given] group" (Converse 1964, p. 236-237, in Thau (2019)). We operationalize the idea in our main hypothesis as follows:

Hypothesis 1 *When a party uses more positive appeals and/or fewer negative appeals to a group, voters become more likely to think the party is looking after the group's interests, and vice versa.*

We follow Thau (2019) in defining a group appeal as "a party associating or dissociating itself (or another party) with a specific group category" (see also Thau 2023). An important feature of this definition is that group appeals are valenced. Much existing work in this area focuses on how much parties talk about each group, implying that group linkage perceptions are driven by group salience (Horn et al. 2021; Riethmüller, Dehne and Al-Gaddooa 2024). On the running tally account, however, valence is key. Negative appeals to a group cancel out positive appeals, and unvalenced or ambiguous talk about groups does not lead voters to update group linkage perceptions. We test this key aspect of our theory directly in the analysis.

Our definition does not specify the exact forms group appeals can take. Some recent work has begun qualifying this (Huber and Dolinsky 2023). Here, we narrow Thau's definition and depart somewhat from Huber and Dolinsky (2023) in stressing the symbolic nature of group appeals and limiting them to political speech. There are innumerable ways for a party to "(dis)associate" itself with a group, and including all of them in the concept risks stretching it to an extent where it ceases to be useful (Sartori 1970). We therefore do not count e.g. a targeted policy on its own as a group appeal to the targeted group, nor the (deliberate) choice of a minority candidate in a party as an appeal to the minority group in itself.

Note that while our definition allows for both positive and negative valence—and our measurement strategy incorporates this—this does not imply that positive and negative appeals are equally likely. Since politicians generally speaking choose rhetoric that maximizes electoral appeal, positive appeals should constitute the lion's share of group appeals. In contrast, we would expect to see negative appeals mainly in cases where (i) the target group is widely disliked by the party's core electorate, or (ii) the negative appeal implies a positive appeal to a competing group.

Importantly, we hypothesize that group appeals change perceived group linkages across the electorate as a whole. While members of the group in question naturally have more at stake and may be influenced more strongly by appeals to their own groups, party linkages to out-groups can also shape policy and party support. This aligns with existing work finding that voters like parties and policies that are perceived to fight for broadly liked, high-deservingness groups like 'the poor' and 'the elderly' (Guinaudeau et al. 2023; Schneider and Ingram 1993; Van Oorschot 2006) and that parties may even mobilize support in certain groups by making negative appeals to specific out-groups they dislike (Stuckelberger and Tresch 2024). Likewise, group linkages are not limited to voters' self-identified party. Generally, voters keep track of not only party reputations for the parties they support but regularly incorporate the reputations of out-parties in their political decision-making (Christensen, Skytte and Slothuus 2023). In particular, parties may link social groups with opposing parties negatively, for example, by associating an out-party with groups like 'the rich', which are disliked broadly or by in-party supporters. As such, it matters how group

linkages are shaped by group appeals in the electorate as a whole.

Constraints on group appeals

A key implication of our running tally theory of group linkages is that parties can shape them through the concerted use of group appeals. If, for instance, the Labour Party were to suddenly stop talking about issues facing Londoners, voters should register this and update their perceptions of Labour's linkages with urban people. This implication is broadly in line with claims that group linkages are not something for parties to take for granted (Mair 2013) and, more broadly, speaks to political elites' power to activate social cleavages (Robison et al. 2021).

This naturally raises the question: why not appeal maximally to all groups? Parties are naturally interested in maximizing their standing among voters, and have in other contexts been shown to strategically appeal broadly in order to be 'everything to everyone' (Somer-Topcu 2015). Still, we highlight four reasons why parties are in practice constrained in their use of group appeals.

First of all, some group linkages reflect long-standing alignments between parties and social groups, which group appeals are not likely to affect on their own (Stuckelberger and Tresch 2024). Hence, group appeals are in practice most likely to be observed when they reaffirm existing alignments, or when they target weakly aligned groups. Second, and relatedly, parties are constrained by their ability to match rhetoric with policy. Repeated symbolic appeals without policy content are likely to engender public pressure for corresponding policy, lest they be accused of 'cheap talk'. As parties respond to this pressure, they must grapple with policy-relevant scarcities. Hence, group appeals will inevitably have some connection to binding policy tradeoffs. Third, even setting aside policy tradeoffs, symbolic appeals are not without risk. Research on voter targeting/tailoring by political campaigns is generally suggestive of limited electoral gains, either due to mistargeting (Hersh and Schaffner 2013) or backlash from overly overt tailoring (Gahn 2024). This inevitably constrains how overtly politicians can appeal to social groups without risking backlash. Fourth and lastly, group appeals are sometimes partially mutually exclusive. Within major categories such as gender, ethnicity, or region, voters are in some cases likely to make inferences across groups. For example, a politician repeatedly stressing her party's focus on the interests of rural people can, in

doing so, strengthen her party's linkage to that constituency, but urban voters are likely to infer that this comes at their expense. These negative spillover effects mean that, in practice, parties must prioritize appealing to some groups over others in a somewhat consistent fashion.

Methods and Data

We now turn to our empirical strategy. Our goal is to link voters' perceived group linkages to parties' group appeals. In this section, we describe our measurement of each of these in turn. Lastly, we present our estimation approach, including threats to causal inference.

Measuring group linkages

We begin by obtaining a time-varying measure of citizens' perceptions of a diverse set of group linkages. In the following, we use the term *dyad* to refer to any specific party-group linkage: for example, we consider the link between Labour and working-class people as one dyad, the link between Labour and elderly people as another dyad, and so on. To obtain time-varying measures of group linkages at the dyad level we turn to the British Election Study (BES). The BES comprises both a panel component, the BES Internet Panel (BESIP) running from 2015-2023, and a series of cross-sectional election surveys (BESES) going back to 1964 (Fieldhouse et al. 2023, 2022). To maximize coverage, we pool them to obtain a combined dataset spanning 1997-2022 with a total of 16 surveys of which 8 are panel waves. Our main results are based on the combined dataset but we conduct additional analyses on the panel data subset to leverage within-individual variation. Given the significantly larger sample sizes for the BESIP waves than the BESES, most of our observations are concentrated in the period from 2010-2022.

The included waves of BESIP and BESES all ask respondents the following question for each major political party: *"Some people say that all political parties look after certain groups and are not so concerned about others. How closely do you think the <party> looks after the interests of..."*, followed by a number of different groups. For each group, the respondent then answers on a four-point scale ranging from *Not at all closely* to *Very closely*.

This survey item closely tracks our chosen theoretical definition of group linkages. It stands to

reason that a respondent seeing a party as "looking after the interests of" a given group is thereby expressing that the party represents the interests of that group, corresponding to our definition of a group linkage. Hence, we consider this item a theoretically valid measure of each respondent's perception of dyad-level group linkages at a given time.

Each survey contains this measure of group linkage for several dyads across several UK political parties and distinct groups. While the dyads included vary from survey to survey, there is also substantial overlap. We choose here to focus on the four major political parties: Labour, the Conservatives, the Scottish National Party (SNP), and the Liberal Democrats. These all had more than five seats in the House of Commons during the entire period under study. With respect to groups, we exclude only a few groups e.g. trade unions and big business, which are in a conceptual gray zone, as well as "people in my local area", which cannot be similarly linked to parliamentary speech. In sum, we have a total of 55 party-group dyads observed across 16 surveys. See Table A1 in Appendix A for an overview of the parties, groups, and waves in the BES data that we use and Table A2 for more granular details on available dyads in each wave.

We combine these surveys by modeling each individual dyad-level response so that each respondent is observed multiple times in each survey. After omitting nonresponses this yields a combined survey data set of $1,695,236$ response-level observations from $83,504$ unique respondents. Because of temporal variation in survey responses – even within the same survey wave – respondents at each interview date are exposed to a unique running tally of recent party-dyad-specific group appeals. We now turn to how we connect these responses to parties' group appeals.

Measuring group appeals

To measure parties' group appeals we turn to parliamentary speech. To fix terminology, in the following, we use the term 'group mention' to refer to any mention of a group that may or may not constitute a proper group appeal. In broad strokes, our measurement approach proceeds in three stages: first, we identify all group mentions in a corpus of speeches from the UK House of Commons. Second, we create a summary measure of the valence of each reference, coding mentions that do not constitute a positive or negative group appeal as neutral. Third and lastly,

we link each survey-based group linkage response as described above to a running tally of group appeals in the months preceding the survey response.

Our use of parliamentary data breaks with standard practice in observational studies of group appeals, the vast majority of which are instead based on party manifestos (e.g., Horn et al. 2021; Huber 2022; Huber, Meyer and Wagner 2024; Thau 2023, 2019, 2021), with Evans and Tilley (2017) being a notable exception. However, relative to manifestos parliamentary speech has far higher temporal resolution. This feature is critical for our identification strategy, which relies on tracking within-party changes in group linkages in response to changes in group appeals. In contrast, an approach linking surveys to manifesto data would need to track within-party changes across years or decades, with far fewer external factors held constant.

In addition to the high frequency of parliamentary speech, which is critical for capturing short-term fluctuations in group appeals, we consider parliamentary speech a useful window into party communication for two reasons. First of all, clips from parliamentary speeches often circulate in traditional and on social media, and this is a likely channel through which voters are exposed to group appeals. As a consequence, MPs speak in parliament knowing that any given excerpt of their speech may be picked up by the media. Second, parliamentary speech takes place within the context of parties' overall communication strategies. Hence, a measure of parties' group appeals based on parliamentary speeches is to some extent a proxy for these parties' use of group appeals in their communication more broadly. To be sure, these are merely theoretical arguments. After describing our measurement strategy in more detail, we validate this assumption, showing that group appeals in parliamentary speeches and press releases correspond closely.

To collect group appeals from parliamentary speech, we use the speech corpus for the House of Commons available in two parliamentary speech databases, *ParlSpeech V2* for speeches from 1997-2019 (Rauh and Schwalbach 2020), and *ParlaMint 3.0* for speeches from 2020-2022 (Erjavec et al. 2023). Jointly, these datasets contain the complete universe of more than 1.6 million House of Commons Speeches held in the 25-year period under study.

Identifying group mentions

The first task is to identify the set of potential group appeals. To do so, we first break the speeches down to the sentence level. Disaggregating speeches to the sentence level has the advantage that we are able to isolate the specific contexts of group appeals. This disaggregation step yields around 13.4 million sentences, each linked to speech and speaker characteristics.

Once speeches are disaggregated to the sentence level, we locate group mentions using a dictionary approach. We rely on the English-language group appeals dictionary developed in Dolinsky, Huber and Horne (2023). While this dictionary is carefully made, it is not developed specifically for parliamentary speech. To ensure that the dictionary retrieves group mentions with as high accuracy as possible, we read through a sample of sentences to identify and filter out frequent false positives. Our augmented dictionary (see Appendix B) identifies one or more mentions of our 13 groups in just shy of 550,000 sentences, corresponding to 4 percent of sentences. Hence, group appeals occur in a small proportion of all sentences, like virtually all features of natural language (Baayen 2001). However, at the level of parliamentary debates, group mentions are common: out of the 3,555 observed days in our data, group mentions feature in all but two. This cuts across parties. Across all party-week dyads, 93 pct. feature group mentions at least once.

Capturing appeal valence

A purely dictionary-based approach would simply count each of these identified mentions as a group appeal. However, this approach is flawed for two reasons. First of all, many group mentions are not in any meaningful way group appeals. For example, the sentence "Why be more Catholic than the Pope on this issue?" matches our dictionary for Christians, but the phrase is clearly used in the idiomatic sense. Our measurement strategy needs to be able to weed out such false positives.

More importantly, group appeals cannot be assumed to be all positive, but can also be ambiguous or outright negative. Following our theorization, the *valence* of group appeals is key to their function in associating and dissociating groups and parties (Thau 2019). This is also clear from empirical inspection. Consider, for example, this sentence, spoken by a Labour MP in 2014:

"Some 85% of the tax allowance will go to men". From the context, it is clear that the Labour MP is critical of men receiving more of the tax allowance. Hence, this sentence would not lead a voter to infer that Labour looks after the interests of men per se. In fact, by casual inspection, mentions of 'men' rarely constitute positive appeals and are instead either residual false positives (e.g., phrases like 'businessmen') or outright negative (as above). Hence, simple mention counts are not a reliable proxy for group appeals.

To solve this measurement problem, we turn to the literature on stance detection. In natural language processing, 'stance detection', usually considered as a subproblem of sentiment analysis, refers to the problem of detecting whether a given text's stance toward a given target is positive, negative, or neutral (Küçük and Can 2020). Stance detection methods are relevant in this case because the theoretical valences of group appeals—positive, negative, or neutral—are closely related to what these methods are optimized to predict. We implement this approach using *PoliStance*, a large language model trained for zero-shot classification of stances towards political groups and people.[2] PoliStance is itself built on DeBERTa, a transformer model developed for text classification (Laurer et al. 2023). While PoliStance can perform stance detection without any tuning or exemplification (i.e., 'zero-shot'), performance improves greatly when the model is fine-tuned, i.e. allowed to learn from a set of annotated sentences.

We proceed in two separate steps. First, we manually annotate a set of sentences for group appeals. Consistent with the logic of stance detection, we annotate each sentence as either a negative appeal (-1), a positive appeal (1), or a fully neutral or non-appeal (0) based on a detailed coding scheme. To assess intercoder reliability, both authors independently code a subsample of 40 sentences. This test yields satisfactory intercoder reliability (Krippendorff's α = .72). Importantly, since our eventual independent variable is a running tally of valence, non-appeals as well as any residual false positives from the dictionary-based group detection are coded to 0 and will therefore not affect the measure. Since appeals are empirically highly imbalanced, with far more positive appeals than negative ones, we prompt the large language model GPT-4 to predict valence labels

[2]See https://huggingface.co/mlburnham/deberta-v3-large-polistance-affect-v1.0

for large samples of appeals and use these predictions to oversample likely negative appeals. We conduct multiple rounds of annotation to maximize balance across valence categories in the annotated set. In total, we manually annotate 2,534 sentences for fine-tuning. Appendix C presents examples of sentences annotated as positive and negative appeals.

In the second step, we use these annotated sentences to fine-tune PoliStance. Because appeals in the annotated set are imbalanced, even with the boosted subset of negative appeals, a multiclass prediction model performs poorly. Instead, we fit two separate models, one predicting positive appeals (vs. neutral) and one predicting negative appeals (vs. neutral). Both models perform well ($F1_{pos} = .88$, $F1_{neg} = .82$). We present full accuracy statistics for both models in Appendix C.

For each of the roughly 550,000 sentences in our data, we now have separate model predictions of whether the sentence has positive and negative valence respectively. Using these models, we define the *net valence* (NV) of sentence s as the predicted probability of a positive appeal minus the predicted probability of a negative appeal:

$$\text{NV}_s = Pr(v_s = 1) - Pr(v_s = -1)$$

The measure captures our best estimate of whether each sentence is a negative or positive appeal. At the sentence level, net valence ranges from -1 (the models are fully confident the sentence is negative) and 1 (the opposite is true). Importantly, if the models are not confident an appeal is either positive or negative, net valence will equal zero and will thus not affect the running tally.

Validation: Group appeals in parliamentary speech vs public-facing communication

While parliamentary speeches are an attractive data source for the kind of fine-grained temporal analysis we need to test our theory, they also come with an important caveat: parliamentary speeches generally do not reach voters, at least not directly. As such, their utility hinges on the extent to which they are transmitted to the public via media coverage, or alternatively, reflect broader patterns in party rhetoric that are also present in more public-facing communication.

To assess the validity of using parliamentary speeches as a proxy for more visible party rhetoric,

we compare them to a more explicitly public-facing source: party press releases from the PARTYPRESS database (Erfort, Stoetzer and Klüver 2023), which includes all press releases issued by major UK parties from 2010 to 2019. We code group appeals in this corpus using the same procedure as for parliamentary speeches, covering the same groups and parties in that period. This yields a dataset of approximately 20,000 mentions.

However, the press release data are too sparse to support the main analysis. While the median party-group dyad occurs 67 times per year in parliamentary speeches, it occurs only 3 times per year in press releases. As shown in Figure D2 (Appendix D), this large gap makes it infeasible to use press releases for the kind of high-resolution temporal analysis our approach requires.

Instead, we use the press release data to validate our parliamentary speech measures. Specifically, we compute the average net valence for each group-party dyad by quarter and compare values across the two sources. We find that the relationship between the two is strongly positive ($r = .68$, $t = 31.3$, $p < .001$). In Appendix D we visualize and report regression estimates of this relationship. In sum, the valence of group appeals in parliamentary speeches closely mirrors that of press releases, bolstering our confidence that our speech-based measures constitute a useful proxy for group appeals in public-facing party rhetoric more broadly.

Model specification

We now turn to model specification. We estimate a series of regression models using the following specification setup:

$$\text{Group linkage}_{ijkt} = \beta_1 \sum_{t=-90}^{t=-1} \text{NV}_{ijt} + \beta_2 n_{ijt} + \alpha_i + \delta_j + \gamma_k + \lambda_t \tag{1}$$

In this specification $\text{Group linkage}_{ijkt}$, our main dependent variable, is the linkage between party j and group i perceived by survey respondent k at time t. Our independent variable of interest is the summed net valence of sentences spoken by party j MPs about group i in the 90 days preceding the survey response. This quantity represents the cumulative rhetorical input that voters can observe and incorporate into their tallies of group-party linkages. While the psychological

"running tallies" in voters' minds are not directly observable, we thus measure the observable input to that process. Hence, our estimate of interest, β_1, captures how this observable rhetorical record relates to perceived group linkages in voters' minds.

To be sure, a bivariate association between group linkages and group appeals in itself tells us little. For example, voters are likely to perceive Labour as representing working-class people due to its historical role as a political movement for the working class. For the same reason, Labour MPs will likely dedicate relatively more attention to the working class, and this alone would give rise to an association between group appeals and perceived group linkages.

To guard against this confounding from long-standing party reputations, our identification strategy uses the richness of our data to implement party fixed effects and group fixed effects, which isolate short-term within-party variation in group appeals and group linkages, as well as other fixed effects for a large subset. We include combinations of α_i, δ_j, γ_k, λ_t, fixed effects for group, party, time, and respondent, respectively, with the most restrictive specification including all fixed effects at once. To be sure, while this restrictive set of fixed effects accounts for a range of time-invariant confounders and common shocks, our observational approach is not immune to confounding. Specifically, β_1 could be confounded by dyad-specific events that jointly affect parties' use of group appeals as well as perceived group linkages for that dyad.

We also include n_{ijt}, the number of dyad appeals in the exposure window. This turns β_1 into an intuitive quantity that closely follows our theory: β_1 is the increase in a party-group linkage from shifting one group mention from neutral to positive, or from negative to neutral, at a fixed number of group mentions. It thereby directly captures the impact of an increase in the average of appeal valence, holding the group's salience in party discourse constant.

To illustrate the importance of controlling for mention frequency, consider the effect of adding a large volume of 'lukewarm' group appeals with far-below-average valence to a positive running tally. Mechanically, this addition would increase the net valence sum (NV_{ijt}) but it would also drag the average valence down. By including a control for mention frequency, we allow voters' perceptions to be influenced more strongly by a given net valence sum when it is spread out over

few (strongly valenced) appeals rather than many (weakly valenced) appeals. This contention is indirectly tested by the model: if correct, the coefficient on appeal frequency, β_2, should be negative, reflecting that voters respond negatively to the decreasing average valence as the number of appeals increases but the net valence sum remains constant.[3]

It is important to clarify that the modeled variation in the independent variable occurs not at the level of unique respondents but rather at the level of unique 90-day exposure windows. This window-level variation is more granular than survey waves, as survey waves typically span between 1 and 4 months. Respondents interviewed at various points during each wave will therefore face different exposure windows for the same dyad. Yet, this variation is considerably less granular than individual-level observations since all respondents interviewed on the same date have identical exposure windows for each dyad. This is worth bearing in mind when interpreting the models, as there is somewhat less true variation than each model N would seem to suggest. Finally, since we observe group linkages at the level of individual responses, while respondents are exposed to the same rhetoric about a given party-group dyad at any given time, our standard errors need to account for this nested structure. To do so, we cluster standard errors at the dyad-wave level.

Results

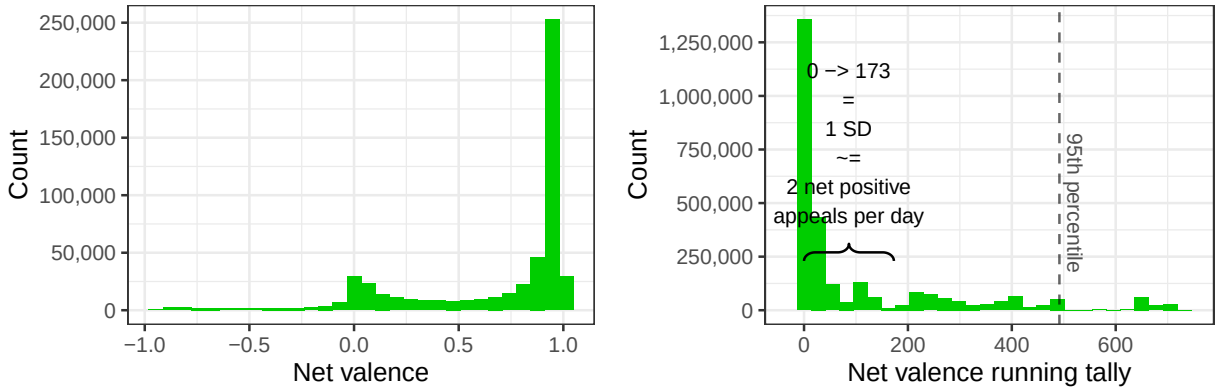
We now turn to results. Before presenting model estimates, we characterize descriptively how group appeals vary over time and across parties and groups in our data.

Descriptive results

We first consider overall variation in our independent variable. Figure 2 shows distributions of all net valences of group appeals (panel a) and all 90-day running tallies (panel b).

As shown in panel (a) of Figure 2, most group appeals are unambiguously positive, with the classifier confidently predicting positive valence. Still, there is considerable variation: 26 pct. of appeals have net valence under 0.5, and 8 pct. are negatively valenced, underscoring the importance

[3]For instance, 100 mentions with a neutral valence of 0.05 sum to a net valence sum of 5, but so do 5 mentions with a maximally positive valence of 1. A null β_2 indicates that voters are indifferent between these two, whereas a negative β_2 indicates that the former scenario influences voters' running tallies less than the latter.



(a) Distribution of all net valences.

(b) Distribution of all running tallies.

Figure 2: Distributions of net valences of all group appeals (panel a) and all 90-day running tallies (panel b). Across running tallies, a 1 standard deviation increase corresponds to a net valence increase of 173, which is equivalent to adding roughly two additional net positive appeals per day during the 90-day window. The dashed line shows the 95th percentile of the distribution.

of accounting for valence when analyzing group appeals. Panel (b) shows the distribution of 90-day running tallies at the dyad level, i.e., our main independent variable. As shown, the distribution is right-skewed with a large share of tallies close to 0, reflecting both the dominance of positive group appeals and the fact that most 3-month periods contain few if any valenced appeals. To illustrate a meaningful change in the running tally, panel (b) visualizes a change of one standard deviation, i.e., moving from 0 to 173, which is equivalent to roughly two additional net positive appeals per day during the exposure window.

The skewed distribution in panel (b) also reflects the fact that the average net valence varies considerably between groups. We show this by plotting group-specific distributions in Appendix E. Some groups (e.g., women) are targets of mostly positive appeals, others (e.g., young people) a mix of neutral and positive appeals. Still, the overall skew gives rise to concerns that results could be driven by right-tail outliers. We check for this by estimating a model excluding observations above the 95th percentile, shown by the dashed line.

We now consider how valence in group appeals varies across target groups. Figure 3 shows the average net valence across all appeals by target group as well as the overall share of appeals to the group (in parentheses).

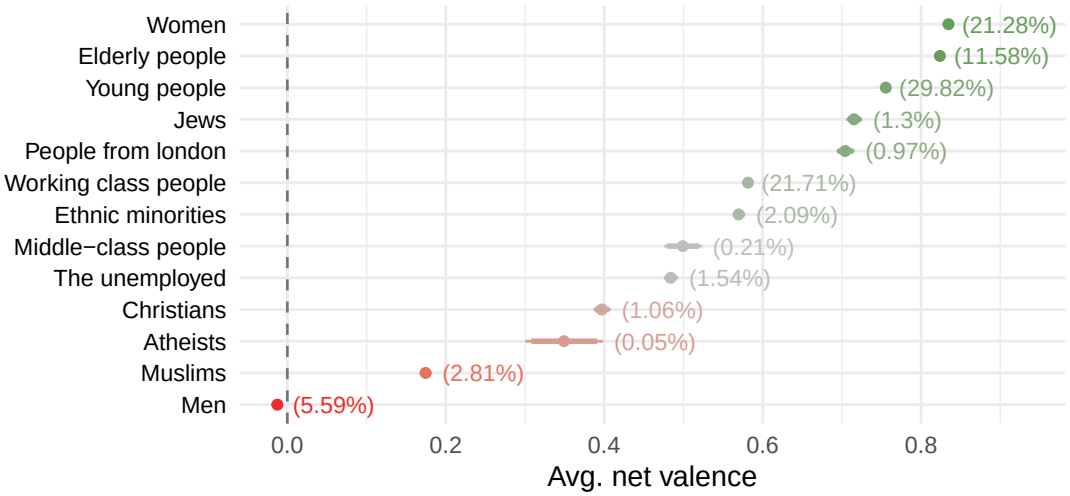


Figure 3: Average net valence by target group from 1997-2019. Color shading reflects average value. Parentheses show the total share of all appeals made to the group. Each point is an estimate from a no-intercept regression of net valence on target group. Error bars show 90 and 95 pct. confidence intervals.

As seen in Figure 3, valence varies considerably across groups. While some are mentioned nearly universally positively (women, the elderly), others have much lower average valence, implying they are often targets of negative appeals (men, Muslims). On balance, averages are positive, with men the only group where negative valence slightly outnumbers positive valence. The highest averages shown in Figure 3 are in fact close to the maximum possible average, indicating that these groups are referenced nearly unanimously positively.

As a last descriptive result, we consider partisan differences in group appeals. To simplify exposition, we focus on differences between Labour and Conservative MPs. Since these parties are the pillars of the traditional UK two-party system, theoretical expectations of to which groups they should be more likely to appeal are more well-defined. Moreover, due to their size, Labour and Conservatives account for the vast majority of the data: 88 pct. of group appeals in our data are by MPs from either of these parties. Figure 4 shows the average difference in valence between Conservatives and Labour for each group.

Figure 4 reveals a very recognizable set of party-group linkages. Conservative MPs appeal relatively more positively to men and Christians, both generally right-aligned groups in contem-

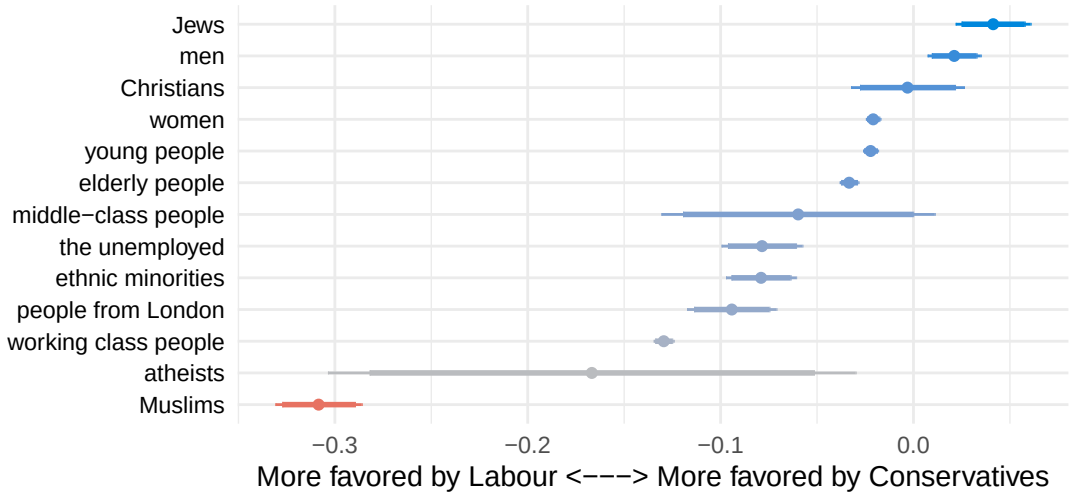


Figure 4: Conservative - Labour gaps in net valence by group. Each point is an estimate from a regression of net valence on an indicator of Conservative party affiliation among all appeals to the group in question. Error bars show 90 and 95 pct. confidence intervals.

porary UK politics. The largest differential is for Jews, a group which, while historically aligned with Labour, has recently leaned Conservative (Barclay, Sobolewska and Ford 2019). Conversely, Labour MPs appeal relatively more positively to Muslims, atheists, and working-class people, all groups solidly embedded in the Labour electoral coalition. In other words, two-party differences in group appeals reflect each party's voter base. In Appendix F, we show how these two-party gaps vary over time for the most frequently mentioned groups.

Overall, the descriptive variation in group valence, both overall and between parties, lends a high degree of face validity to our measure of group appeals. We now turn to estimates from our regression models linking group appeals to group linkages expressed in surveys.

Regression estimates

Table 1 presents estimates from various specifications of the model outlined in equation (1) above.

Models 1-4 in Table 1 differ in terms of the number and composition of fixed effects. Model 4 is identical to Model 3 but excludes the 5% most extreme cases with respect to net valence. The estimate of interest, *Net valence (sum)*, is in the top row. As shown, the coefficient on the net valence sum is consistently positive and statistically significant. The coefficient is fairly robust in

Table 1: Estimates from regressing group linkages on group appeals.

	Model 1	Model 2	Model 3	Model 4
Net valence (sum)	0.128***	0.059**	0.071*	0.087*
	(0.029)	(0.021)	(0.028)	(0.036)
Number of appeals	−0.093***	−0.044**	−0.053*	−0.060**
	(0.019)	(0.014)	(0.020)	(0.023)
N	1 325 239	1 325 239	1 325 239	1 285 515
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: Group	✓	✓	✓	✓
FE: Wave		✓	✓	✓
FE: Party			✓	✓
Restricted range				✓

terms of magnitude, ranging between .06 and .13 across specifications. As theorized, this is driven by the valence of appeals and not their quantity, as emphasized by the control for the number of group mentions in the models. Further, the coefficient on the number of mentions is negative as expected, indicating that voters' perceptions are influenced more strongly by a given net valence sum when it is spread out over few (strongly valenced) appeals rather than many (weakly valenced) appeals. In Appendix G we present 'naïve' models that regress group linkages just on counts of group mentions estimate a precise and consistent null. This appendix also reports results from a simple 'pooled' specification without any fixed effects, which results in a positive but small and noisy estimate. This is not too surprising given the vast heterogeneity in valence between dyads shown earlier. As we theorize running tallies to be group- and party-specific, we would not necessarily expect a positive overall correlation between dyad valence and group linkage. Finally, Appendix G also reports results from an ordered logit model treating the outcome variable as a four-point ordinal scale.

The estimates shown in Table 1 treat all the survey responses as cross-sectional and do not make use of the fact that a subset of the survey data is panel data. In Appendix H we present a set of analyses that apply individual-level fixed effects to isolate within-respondent variation. In these models, coefficients are if anything larger and remain statistically significant.

It is worth noting that the estimates shown in Table 1 are based on windows of exposure to group appeals of 3 months. However, the results are not sensitive to this specific window length. As we show in Appendix I, net valence sums tallied across varying window sizes produce similar point estimates (although precision is predictably weakened as the window is shortened).

To make sense of the magnitude of the coefficients, Figure 5 visualizes predicted levels of group linkage across the observed range of net valence sums. We base our calculations on the coefficient in Model 3 of Table 1, the most restrictive specification on the full sample.

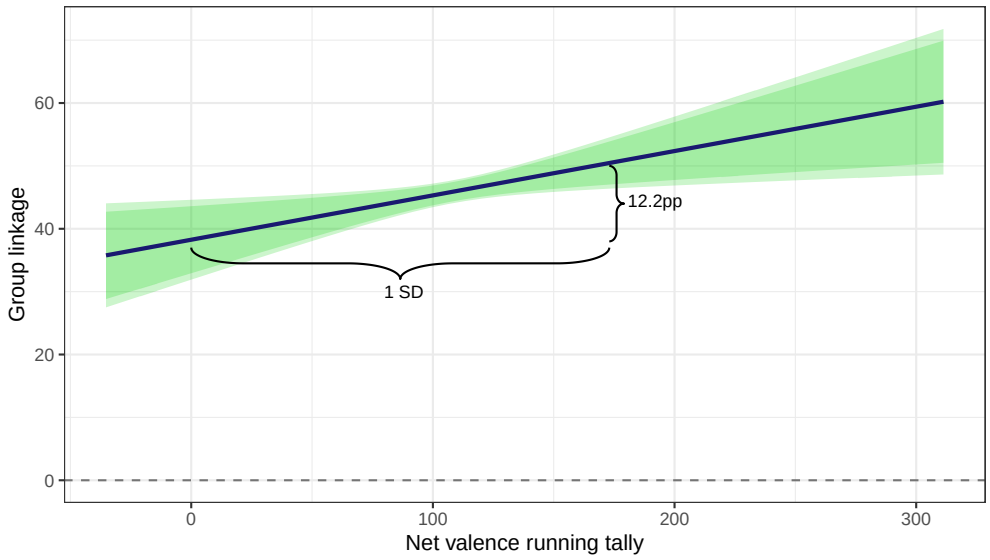


Figure 5: Predicted group linkage values in response to different net valence sums. Based on Model 3 in Table 1. The plot shows predicted values ranging from the minimum of the net valence running tally to 2 standard deviations above the minimum. A unit increase in the independent variable represents a +1 increase in the net valence of one mention during 3 months (holding the number of mentions constant).

The bracket in Figure 5 shows the predicted level of group linkage for a difference in the running tally of one standard deviation, corresponding to an increase in the net valence sum from 0 to 173. In substantive terms, this can be understood as a party's MPs switching roughly two group

mentions from neutral to positive, or negative to neutral, every day over the 90-day period. We estimate that such a difference is associated with the group linkage for the relevant party-group dyad improving by 12.2 percentage points, a substantial increase. In sum, our estimates indicate that group linkages reflect short-run exposure to group appeals from party elites.

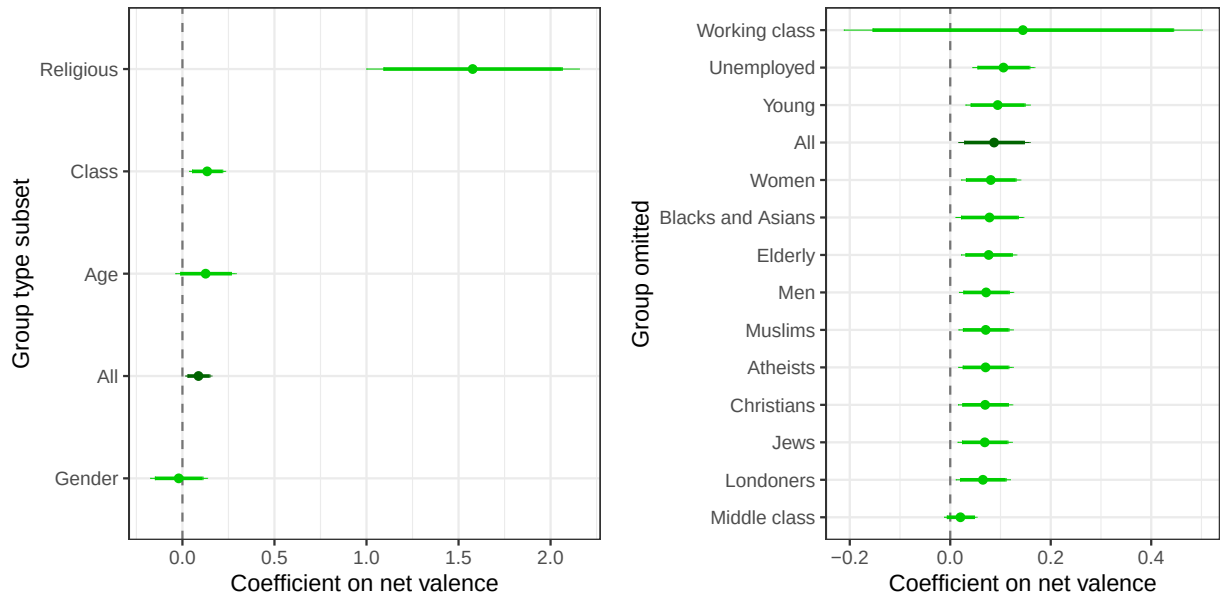
Heterogeneous effects: group types, policy content, and news consumption

We next present a set of auxiliary analyses to probe effect heterogeneity and assess the robustness of the main result. Specifically, we examine how the main effect varies across (i) the social groups involved, (ii) whether group appeals reference policy, and (iii) individual-level news consumption.

We first consider heterogeneity across the types of groups to which party elites can appeal. This connects to concerns about external validity. For example, class has famously played a particular role in British politics and has been the focus of key studies on the topic (Robison et al. 2021; Stubager and Thau 2023; Thau 2023, 2021) (although, as Evans and Tilley (2017) argue, this role has diminished in recent decades). This naturally raises the concern that the overall result could be driven by British voters' reactions to, e.g., class appeals specifically. Moreover, our overall estimate is inevitably mostly driven by the groups that account for most observed group linkages (working class, middle class, Black & Asian, and unemployed).

To examine this, we consider heterogeneity across group types. Since sample coverage differs widely by group, we cannot carry out well-powered analyses for each single group. We therefore bundle the groups together according to their type as shown in Table A1, resulting in four group types: religious, class, age, and gender. To preserve power, we consider only groups which can be subsumed under an overarching group type. We then test for heterogeneity in two ways: by re-estimating the model for each group type separately, and a 'jackknife' type test re-estimating the model with each group omitted. Results are shown in Figure 6. All estimates rely on the most restrictive model specification, i.e. Model 3 in Table 1.

As shown in panel (a) of Figure 6 the main heterogeneity at the group type level is that the coefficient for religious groups is noticeably larger. The other group type-specific estimates vary around the overall estimate. Estimates for class- and age-based groups are larger than the overall



(a) Estimates subsetting to each group type. **(b)** Estimates omitting each group.

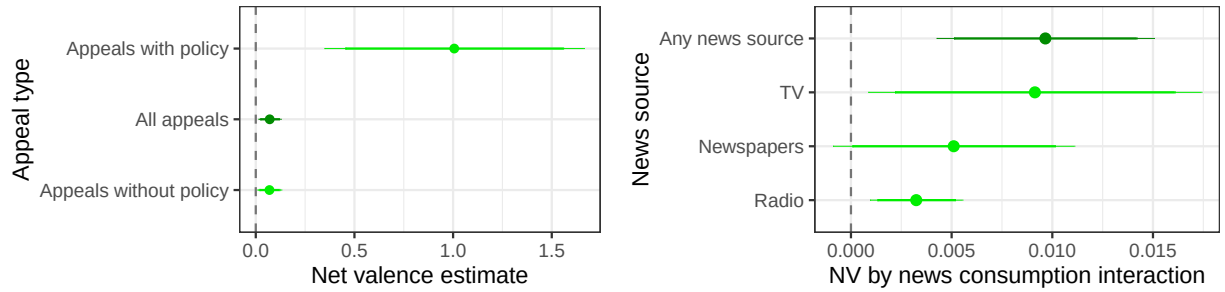
Figure 6: Estimates when subsetting to each group type (left panel) and omitting each group (right panel). All estimates are based on the specification from Model 3 in Table 1. Light green dots are group (type)-specific estimates, the dark green 'All' estimate is the overall estimate presented in Table 1. Groups and group types are ordered by coefficient. Thin and thick error bars represent 95 and 90 pct. confidence intervals, respectively.

estimate, and the estimate for gender is smaller and indistinguishable from zero. Panel (b) reveals that coefficient magnitudes are robust to omitting each group from the data. Only when omitting class-based groups does the estimate not reach statistical significance, but this reflects the loss of power from dropping by far the most common group type in the data.

We next examine how the effect varies between group appeals that include or do not include references to policy. Group appeals are sometimes used in conjunction with policy statements, as when a party criticizes a policy for harming a particular group, and existing research has debated whether such 'substantive' group appeals have stronger effects on group linkages than purely 'symbolic' ones (Horn et al. 2021; Huber 2022; Thau 2019, 2021) with, e.g., Thau (2021) arguing that "the most lucrative strategy probably lies in combining the two electoral appeals" (p. 686). Yet, this has mostly been the subject of theoretical debate (though see Robison et al. 2021).

To test this, we code all sentences in our data for explicit references to policy using a custom

dictionary (see Appendix L for details.) We then re-estimate our preferred specification (Model 3 in Table 1) in two ways: one counting only group appeals with explicit references to policy, and one counting only appeals without references to policy. Figure 7a presents the results.



(a) Moderation by policy content. **(b)** Moderation by recent news consumption.

Figure 7: Estimates of the coefficient on net valence by whether the appeal includes an explicit reference to policy (left panel) and by whether the respondent recently consumed news from various sources (right panel). Specifications in the left panel are identical to Model 4 in Table 1. Here, light green dots are estimates with and without policy references, while the dark green 'All' estimate is the overall estimate presented in Table 1. Specifications in the right panel are based on the most restrictive panel model with individual-fixed effects, Model 4 in Table H1. Here, light green dots are interaction terms from interacting each news source indicator with the net valence measure, and the dark green dot is the interaction term from a variable indicating consumption of any of the three news sources. Thin and thick error bars represent 95 and 90 pct. confidence intervals, respectively.

As shown in Figure 7a, appeals with and without policy both yield significant coefficients, consistent with the main result. This suggests that the main result is not solely driven by references to policy which happen to coincide with group appeals. At the same time, Figure 7a indicates that group appeals accompanied by policy mentions are roughly an order of magnitude more effective compared to those without. This lends support to contentions in earlier work (e.g., Thau 2021) that while symbolic appeals are effective, linking them to policy can greatly enhance their effects on voters. At the same time, policy does not seem to drive the effect on its own. In Appendix M we show that our main result is also robust to an alternative strategy for accounting for the role of policy, where we include a party-level measure of time-varying policy towards a set of groups as a statistical control. In sum, group appeals seem to matter over and above policy, although appeals explicitly tied to policy appear more effective.

Finally, we turn to heterogeneous effects between voters more or less likely to have been exposed to elite rhetoric. To the extent that group appeals in parliamentary speeches reach voters directly, they do so through media coverage. We would therefore expect the relationship to be strongest for voters at times where they consume news media. Leveraging our panel dataset, we conduct a within-respondent analysis to examine this moderation effect, interacting net valence sum with measures of reported recent exposure to media coverage (see Appendix N for details). Figure 7b shows the results. As expected, the relationship is significantly stronger in periods where respondents consume news compared to periods where they do not. This bolsters confidence in our mechanism, suggesting that individual voters are more sensitive to group appeals when they are more likely to be exposed to them. It also provides additional support for the use of parliamentary speeches as a proxy for elite rhetoric that reaches voters.

Conclusion and Discussion

Shared perceptions of what parties stand for and who they represent play a key structuring role in politics. A central component of a party's reputation is the perception of *whom* the party represents—i.e., its set of group linkages—which influences how voters reason about politics (Dalton 2018; Elder and O'Brian 2022; Mason, Wronski and Kane 2021; Miller, Wlezien and Hildreth 1991). Scholars offer divergent accounts on how group linkages change, emphasizing either gradual changes in the social structure (Bornschier et al. 2021; Hooghe and Marks 2018) or party positioning at the level of electoral cycles (Evans and Tilley 2012, 2017). However, neither account leaves room for short-run changes in response to elite rhetoric.

We present new theory and evidence on how group linkages change in response to elite rhetoric. Specifically, we argue that citizens keep 'running tallies' of group linkages based on recent political rhetoric. By implication, group linkages respond to group appeals in elite rhetoric. To test this expectation, we use a language model to produce high-quality annotations of group appeals in 1.6 million parliamentary speeches in the UK House of Commons. We then examine how group linkages expressed in surveys track party elites' group appeals. Consistent with our expectation,

we find that group linkages robustly track parties' use of group appeals. By our estimates, a one standard deviation change in group appeal valence improves a perceived group-party linkage by around 12.2 percentage points. These results challenge the conventional view of group linkages as sticky, suggesting instead that party elites have some latitude to change these in the short run.

Some limitations to our analysis remain. First, we exploit a rare data opportunity to link mass group linkages and elite group appeals in present-day UK. This naturally raises the question of generalizability to other contexts. We show that our findings are fairly robust across group types, and thus not likely driven by a uniquely British attention to class. Still, we study an era of relative volatility in the UK party system, which may also make group linkages relatively less fixed. While this relative volatility is mirrored in European politics writ large (De Vries and Hobolt 2020), it is an open question how our findings generalize to more static party systems.

Second, our observational approach inevitably leaves residual concerns about causal inference. While we are able to include a rich set of controls, including fixed effects for groups, parties, and survey waves, we cannot rule out all confounders. Moreover, because our data is observational, we observe group appeals 'along the equilibrium path', i.e. the appeals party elites choose to make, perhaps because they are perceived as more likely to work. Future experimental work could examine the efficacy of group appeals that are rarely seen in the wild.

Lastly, we stress that our measure of group appeals is designed to capture explicit appeals. This excludes implicit or 'dog whistle' appeals that are richly theorized (e.g., Tesler 2017), but in practice too subtle for our classifier to pick up. However, group appeals are likely to also operate at the implicit level. For example, while we find striking average negativity in explicit appeals to men, it is possible that politicians mask positive appeals to men through gendered 'group implicating' phrases (Winter 2008) like 'workers', 'troops', or 'motorists'. We consider the implicit level of group appeals an important avenue for future research.

These caveats notwithstanding, our results have several important implications. First and foremost, they suggest that a cornerstone assumption of the group appeals literature is warranted. While rarely studied, and never in non-experimental settings, the link we have demonstrated is

critical for claims that parties can use group appeals strategically to shape perceptions of group-party links and voter behavior (Huber 2022; Huber and Haselmayer 2024; Thau 2019). We also provide rare evidence on the relative effectiveness of group appeals with and without mentions of policy. Importantly, group appeals work even in the absence of explicit references to policy, but their effectiveness is greatly enhanced when tied to policy. Jointly, these results underscore the importance of studying how parties use group appeals for understanding electoral outcomes.

Secondly, our results suggest that party reputations are more malleable than is often assumed. If, for instance, the Labour Party were to suddenly stop talking about issues facing Londoners, voters should register this and immediately update their perceptions of Labour's linkages with urban people. This stands in contrast to other major approaches to group linkages and group-based voting that emphasize either bottom-up "epochal structural shifts" (Westheuser and Zollinger 2024, p. 4) in the social structure (Bornschier et al. 2021; Lipset and Rokkan 1967) or larger top-down shifts in party strategy (Evans 2013; Evans and Tilley 2012, 2017; Evans and Graaf 2013). The effectiveness of group appeals may seem surprising given inherent issues with the credibility of political rhetoric and 'cheap talk' (e.g. Fiorina 1981). Yet, it aligns with other work demonstrating political elites' power to activate social cleavages (Klar 2013; Robison et al. 2021). Moreover, there are good reasons why group appeals would leave such strong impressions on voters, specifically their typical emotional or moral charge and ease of interpretation.

What does the malleability of group linkages mean for party competition? Most obviously, it suggests that the use of group appeals is an important element of party strategy and competition. Group linkages may also be increasingly malleable as voters become more volatile, as is the case in the UK (Fieldhouse et al. 2020) and Europe more broadly (Dassonneville 2023). The flipside of this malleability, however, is that group linkages are not something parties can take for granted (Mair 2013). Connections between parties and groups must be maintained in party rhetoric to remain relevant and salient in voters' minds.

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Appendix: For Online Publication

A Overview of BES surveys

Table A1: Groups, parties, and surveys available for group linkage item in BESIP and BES data.

Groups	**Parties**	**Surveys**
Class	Labour	May-July 1997
Middle class people	Conservatives	June-September 2001
Working class people	SNP	February-May 2005
Unemployed people	Liberal Democrats	May-July 2005
Religion		May-September 2010
Jews		May-September 2015
Christians		November-December 2016*
Atheists		May-June 2017*
Muslims		June-October 2017
Gender		March 2019*
Women		December 2019*
Men		January-June 2020
Age		June 2020*
Young people		May 2021*
Retired people/pensioners		November-December 2021*
Ethnicity		May 2022*
Black and Asian people		
Geography		
People in London		

**BESIP panel waves.*

Data collection [month(s)/year]	5-7/97	6-9/01	2-5/05	5-7/05	5-9/10	5-9/15	11-12/16	5-6/17	6-10/17	3/19	12/19	1-6/20	6/20	5/21	11-12/21	5/22
BES election surveys	1997 GE	2001 GE	2005 GE	2005 GE	2010 GE	2015 GE			2017 GE			2019 GE				
BES internet panel							w10	w12		w15	w19		w20	w21	w22	w23
Middle class people	3615	3900	4791	4791	1843	2987	30237	34394	2194	0	8105	3946	7902	30281	6975	30949
Working class people	3615	3900	4791	4791	1843	2987	30237	34394	2194	0	8105	3946	7902	30281	6975	30949
Unemployed people	3615	3900	4791	4791	1843	2987	30237	0	2194	0	8105	3946	7902	30281	6975	30949
Black and Asian people	3615	3900	4791	4791	1843	2987	30237	0	2194	0	8105	3946	7902	30281	6975	30949
Retired people/pensioners	0	3900	4791	4791	1843	0	0	0	0	0	0	0	0	0	6975	30949
Young people	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6975	30949
People in London	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6975	30949
Women	0	3900	4791	4791	1843	0	0	0	0	0	0	0	0	0	0	7878
Men	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7878
Muslims	0	0	0	0	0	0	0	0	0	6982	0	0	0	0	0	0
Jews	0	0	0	0	0	0	0	0	0	6982	0	0	0	0	0	0
Christians	0	0	0	0	0	0	0	0	0	6982	0	0	0	0	0	0
Atheists	0	0	0	0	0	0	0	0	0	6982	0	0	0	0	0	0

Table A2: Dependent variable coverage of each group by survey wave.

B Group mention dictionary

Middle class people: middle income earner*, middle class, average earner*, middle-income, white collar worker*, white-collar worker*

Working class people: working class, worker*, employee*, working famil*, chavs, manual labourer*, primary producer*, on low income*, poor people, the poor, on the poverty line, the lowest paid, lower class, lower-class, low income earner*, low income class, on social security, on lower incomes, on low wages, on poverty wages, on the dole, on or near the poverty line, low-income famil*, on modest income*, low-wage job*, the lowest-paid, zero-hours contract*, zero-hour contract*, wage-earner*, wage-earning, unskilled worker*, blue collar worker*, blue-collar worker*, pink collar worker*, pink-collar worker*

Unemployed people: unemployed people, without a job, the jobless, jobseeker*, without employment, long-term unemployed, unemployed person, the unemployed, who are unemployed

Retired people/pensioners: old people, older people, pensioner*, senior citizen*, elderly, retired people, retiree*, nearing retirement, reaching retirement, beyond retirement

Young people: student*, undergraduates, young people, youth*, teenager*, teens, adolescent*, young adult*, under-18s, under-21s, under-25s, under 18s, under 21s, under 25s, 13-year-old*, 14-year-old*, 15-year-old*, 16-year-old*, 17-year-old*, 18-year-old*, 19-year-old*, 20-year-old*, 21-year-old*, 22-year-old*, 23-year-old*, 24-year-old*, 25-year-old*

Rural people: country dweller*, rural resident*, rural area*, rural population, rural inhabitan*, rural communit*, commuter*, rural and coastal communit*, outside urban area*, countryside

People in London: city dweller*, urbanite*, urban resident*, city resident*, inner-city area*, urban area*, city area*, urban communit*, metropolitan area*, people in london, londoner*, inner-london, working in london, based in london

Black and Asian people: black british, africans, carribeans, BME, BAME, pakistani, bangladeshi, bengali, indian people, chinese people, black people, asian people, afro-caribbean, minority ethnic, black and asian, carribean men, carribean women, african men, african women, indian men, indian women, black men, black women, asians, chinese men, chinese women, indian british, asian british, pakistani british, bangladeshi british, chinese british, ethnic minorities, black communit*, asian communit*, ethnic communit*

Muslims: muslim*, islam*

Jews: jew*, judais*, judeo*

Christians: catholic*, protestant*, anglican*, evangelical*

Atheists: non-believer*, atheist*

Women: women*, female

Men: men, men's, male

C Automated classification of group appeals

To augment our automated classification, we train our BERT-based model to classify sentences in the following format: "British politician from the <party> (in <government status>) mentioning a group (<group>): '<sentence>"'. This has the advantage of supplying the model with contextually relevant information about each sentence, improving accuracy. We reproduce examples of annotated sentences in the same format here.

Table C1: Sample of sentences annotated as positive group appeals

	Text
1	British politician from the Conservative Party (in opposition) mentioning a group (urban people): 'The Attorney General is well aware that drug trafficking is an issue not just for urban areas, but for rural areas, villages and towns.'
2	British politician from the Conservative Party (in opposition) mentioning a group (rural people): 'Although I was a member of an Administration who by nature, support and backing were closer perhaps to rural areas than his, it was not always easy to win what I needed to win.'
3	British politician from the Conservative Party (in opposition) mentioning a group (working class people): 'I draw the attention of the House to early-day motion 1320 on Health and Safety Executive job cuts, which points out the lack of resources being made available for maintaining health and safety for UK workers, and the fact that staff numbers have fallen from 4,282 in April 2004 to 3,225 in March 2007.'
4	British politician from the Liberal Democrats (in opposition) mentioning a group (ethnic minorities): 'To follow up the point about ethnic minorities, it is interesting to note that 10 per cent. of the British Army is not British, with one in 10 soldiers belonging to one of 57 other nationalities.'
5	British politician from the Conservative Party (in opposition) mentioning a group (urban people): 'As the honorable Gentleman said, the proliferation of knives, particularly these unpleasant zombie knives, has caused a huge problem, particularly in urban areas and especially in London.'
6	British politician from the Liberal Democrats (in opposition) mentioning a group (middle-class people): 'Grandiose plans for public spending might help in the long term, but low and middle-income families need more money in their pockets right now.'
7	British politician from the Conservative Party (in opposition) mentioning a group (ethnic minorities): 'Should not the denial of women's rights be a matter of concern to men, the denial of the rights of ethnic minorities be a matter of concern to those who do not belong to one, and the denial of the rights of gays be a matter of concern those who are not gay?'
8	British politician from the Conservative Party (in opposition) mentioning a group (Christians): 'We should recognise the feelings in the Muslim community about that, just as we should respect the position taken by Catholic and Jewish schools.'
9	British politician from the Scottish National Party (in opposition) mentioning a group (women): 'It is important to acknowledge, as other honorable Members have pointed out, that the vast majority of men are not violent towards women, but the evidence shows that such violence is perpetrated overwhelmingly by men.'
10	British politician from the Labour Party (in government) mentioning a group (elderly people): 'It is easy to poke fun at the Liberal Democrats for wanting to channel some of our existing resources to the oldest pensioners, but any serious person knows that that should be part of the new consensus.'

Accuracy statistics for these models are shown in Table C3. As shown, both models perform well, with precision, recall, and F1 score above .8. The negative valence model performs slightly less well, likely owing to the smaller proportion of negative appeals in the training data (20 percent).

Table C2: Sample of sentences annotated as negative group appeals

	Text
1	British politician from the Labour Party (in government) mentioning a group (men): 'Women suffer horribly from violence at men's hands in the home and on the streets.'
2	British politician from the Labour Party (in government) mentioning a group (rural people): 'The power to put subsidy into rural areas is contained in the new Postal Services Bill, but the fund for deprived urban areas is exclusively for those areas, and will be ring-fenced accordingly.'
3	British politician from the Labour Party (in government) mentioning a group (young people): 'This new regime has reduced the number of institutions able to bring students to the UK from over 4,000 to approximately 2,000.'
4	British politician from the Labour Party (in government) mentioning a group (Muslims): 'In 1997 he ran Al-Ansar, an Arabic newspaper that supported the Algerian Armed Islamic Group-GIA.'
5	British politician from the Conservative Party (in opposition) mentioning a group (urban people): 'I know that the honorable Lady was not in this place during Labour's rule, but I would say gently to her that had she not been asleep under a tree like Ferdinand the Bull, she might have noticed that during the period from 1997 to 2010 a Labour Government exacerbated the educational funding gap between rural and urban areas.'
6	British politician from the Labour Party (in government) mentioning a group (Jews): 'Sharon's response to that is part ethnic cleansing-ensuring that it is impossible for people to live in the area because of the impact of the wall and the use of such things as the planning laws in and around Jerusalem, which have, in effect, judaised large parts of the outskirts of Jerusalem-and part hustling Palestinians into what can be described only as Bantustans in the west bank and Gaza.'
7	British politician from the Conservative Party (in opposition) mentioning a group (Muslims): 'It seeks the destruction of the state of Israel and the establishment of an Islamic republic in Lebanon.'
8	British politician from the Liberal Democrats (in opposition) mentioning a group (women): 'Regrettably, many of these offences are committed by women-Courtney Love being a case in point-who seem to have the same capacity to imbibe and behave badly as the men.'
9	British politician from the Conservative Party (in opposition) mentioning a group (Muslims): 'He will be aware from the ISC report that the tragic events of 7/7 followed years of failure, going back to before 1997, to appreciate the scale of the Islamist threat.'
10	British politician from the Labour Party (in government) mentioning a group (rural people): 'The Government have allocated an additional £30 million to rural policing when, on every comparison of crime between urban and rural areas, it is urban areas that should have that extra policing.'

Table C3: Accuracy Statistics for Group Appeal Valence Prediction Models

Model	Precision	Recall	F1 Score
Positive Valence Model	0.88	0.88	0.88
Negative Valence Model	0.82	0.82	0.82

D Validating group appeal valence in parliamentary speeches against press releases

To validate the valence of group appeals in parliamentary speeches, we compare them with group appeals in party press releases from the PARTYPRESS database (Erfort, Stoetzer and Klüver 2023). The database includes all press releases by the major parties in the UK, including the four parties we focus on, over ten years from 2010 to 2019. Using the same procedure as for the parliamentary speeches, we identify and code all group appeals in the period for the same groups and parties. Mirroring the key measure of interest in our analysis, we then compute the average net valence for each group-party dyad by quarter in the nine-year period.

Table D1 presents estimates from regressing the measure of dyad-level quarterly average net valence for the parliamentary speeches unto the same measure for the press releases. Model 1 shows the bivariate coefficient. Models 2-4 include various fixed effects and varied error clustering. As shown, there is a robust relationship between how parties talk about each group in each quarterly period across the two data sources.

Table D1: Estimates from regressing quarterly group appeal valence in parliamentary speech on press releases.

	Model 1	Model 2	Model 3	Model 4
Net valence (average)	0.820***	0.232**	0.180*	0.180+
	(0.026)	(0.066)	(0.077)	(0.096)
Intercept	0.172***			
	(0.019)			
N	1143	1143	1143	1143
Std.Errors	IID	group	group	dyad
FE: Group		✓	✓	✓
FE: Party			✓	✓

In Figure D1, we visualize the correlation between quarterly dyad-level valences for parliamentary speeches (x-axis) and party press releases (y-axis).
Figure D2 shows the number of mentions per dyad-year in the main dataset, parliamentary speeches, compared to in press releases. As shown, there are far fewer observations in the press releases dataset, even in the time period of common coverage (2010 to 2019), which is why press releases do not offer sufficient statistical power to serve as a basis for the main analysis.

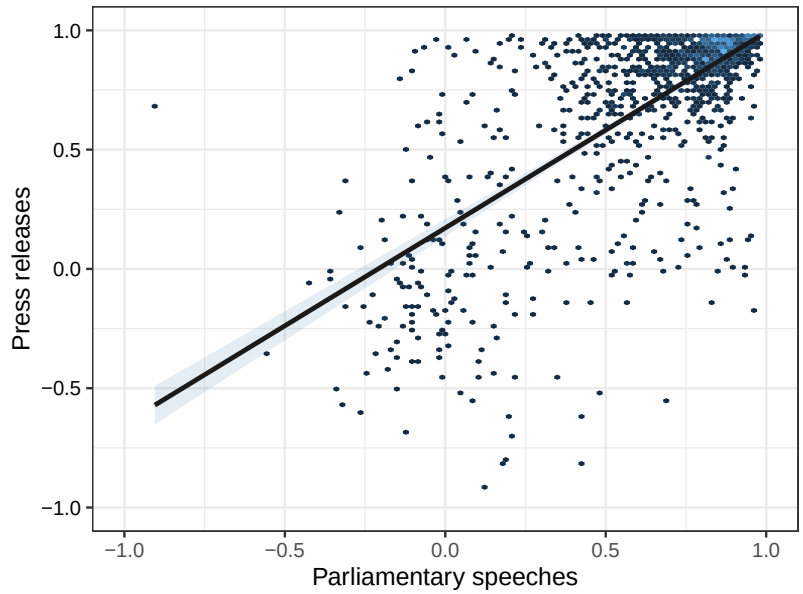

Figure D1: Quarterly average net valence by dyad for parliamentary speeches (x-axis) and party press releases (y-axis), 2010-2019. Overlaid linear regression line. Color shading reflects point density. Speech and press release dyad valences are correlated at $r = .68$ ($t = 31.3, p < .001$).

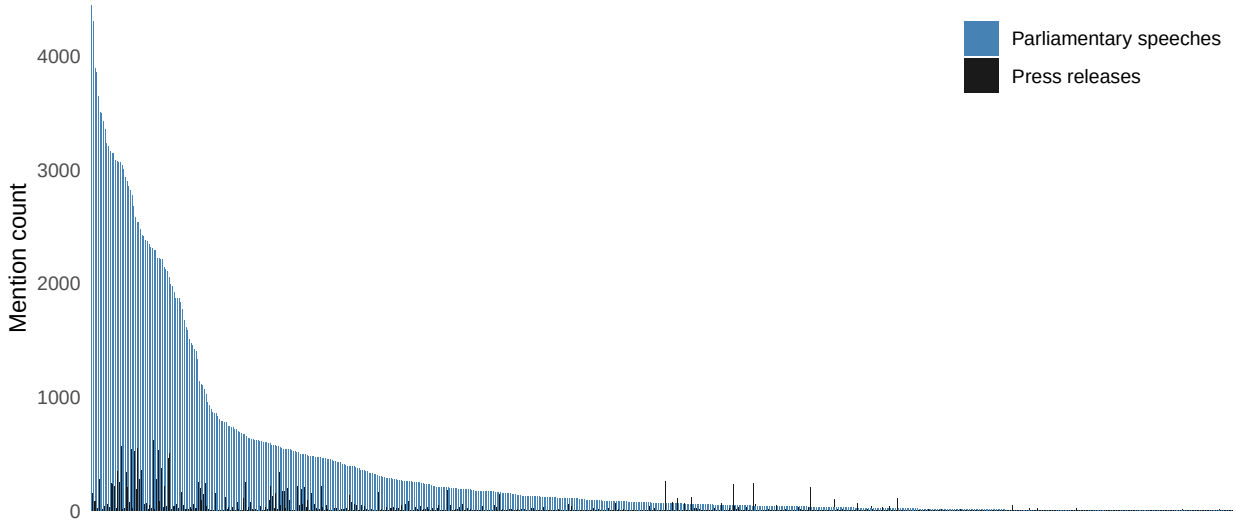

Figure D2: Bar chart of mention counts per dyad-year across the two datasets.

E Distribution of running tallies by group

Figure E1 shows the distribution of net valence across a 30-day period separately for each group.

Figure E1: Distribution of net valence by group.

F Descriptives on average valences of group appeals

Table F1 shows the estimates underlying Figure 3. Table F2 shows the estimates underlying Figure 4.

Table F1: Estimates from no-intercept regression of net valence on target group indicators.

	(1)
Atheists	0.349***
	(0.024)
Christians	0.397***
	(0.005)
Jews	0.715***
	(0.005)
Muslims	0.175***
	(0.003)
Working class people	0.582***
	(0.001)
Middle-class people	0.499***
	(0.011)
The unemployed	0.484***
	(0.004)
Ethnic minorities	0.570***
	(0.004)
Men	−0.013***
	(0.002)
Women	0.835***
	(0.001)
People from London	0.704***
	(0.005)
Elderly people	0.824***
	(0.002)
Young people	0.755***
	(0.001)
N	538 863

In Figure F1 we show dyad-level net valence by year for the two major parties (Labour, shown in red, and Conservatives, shown in blue), and the seven largest groups by size (all groups making up at least 2 pct. of all mentions).

Like the group linkages shown in Figure 1 in the manuscript, group appeals exhibit a mix of change and stability. For example, while Labour consistently appeals more positively to working-class people and Muslims, the partisan gap for elderly people fluctuates, and appeals to men have seen considerable partisan polarization in recent years.

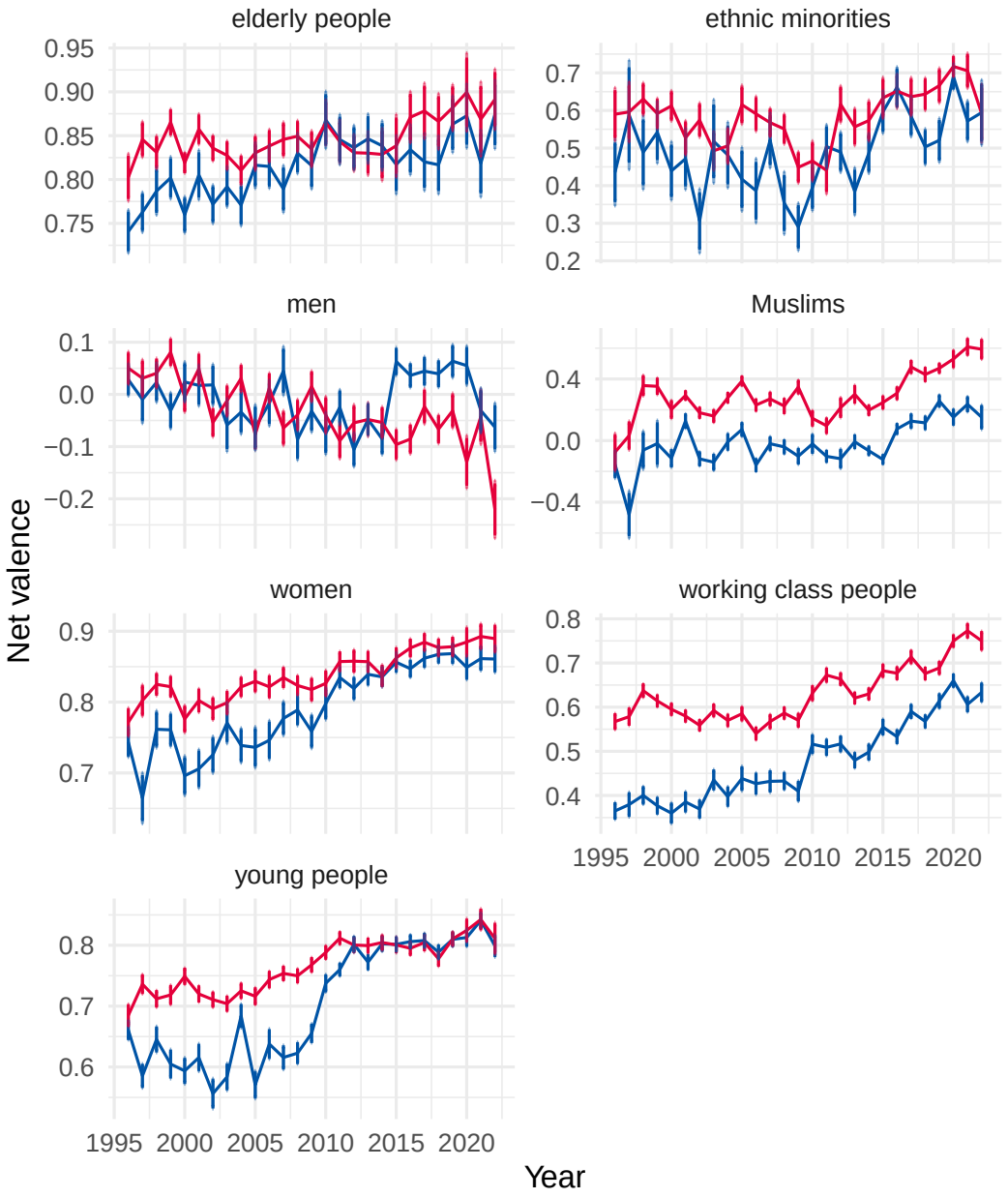

Figure F1: Net valence by group over time, Labour (red) vs. Conservatives (blue). Each dot shows the year-specific average net valence of all group appeals for the party-group dyad. Error bars represent 95 pct. confidence intervals.

Table F2: Estimates from regressions of net valence on an indicator of Conservative party affiliation among all appeals to the group in question.

	Christ.	Jews	Musl.	Athe.	Eld.	Ethn. min.	Men	Mid.-class	Lond.	Unemp.	Wom.	Work. class	Young
Cons.	−0.003	0.041***	−0.308***	−0.167*	−0.033***	−0.079***	0.021**	−0.060+	−0.094***	−0.079***	−0.021***	−0.129***	−0.022***
	(0.015)	(0.010)	(0.011)	(0.070)	(0.002)	(0.009)	(0.007)	(0.036)	(0.012)	(0.011)	(0.002)	(0.003)	(0.002)
Intcpt.	0.401***	0.692***	0.304***	0.421***	0.841***	0.596***	−0.024***	0.510***	0.746***	0.521***	0.842***	0.629***	0.766***
	(0.011)	(0.007)	(0.008)	(0.051)	(0.002)	(0.005)	(0.005)	(0.023)	(0.007)	(0.007)	(0.001)	(0.002)	(0.001)
N	4521	5938	12 723	195	48 658	9342	24 152	893	4262	6873	91 709	94 697	130 722

G Results from alternative specifications of the main model

Table G1 shows results from alternative model specifications. Model 1 shows the main specification from Table 1 without any fixed effects. Models 2-5 shows specifications with similar fixed effects as Table 1 but using only counts of group mentions as the independent variable, i.e. without accounting for valence. Model 6 shows the main specification from Table 1 estimated using ordered logit instead of OLS. Model 7 shows an alternative specification of the main effect which interacts counts of group mentions interacted with the average valence of group mentions. As shown, there is a positive interaction between the valence and number of appeals, indicating that increasing the number of appeals has a more positive effect when their valence is positive. (Note that the coefficient on 'average valence' is fictive since 'average valence' is undefined when 'number of appeals' equals 0.)

Table G1: Alternative estimates from regressing group linkages on net valence and counts of group mentions.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Net valence (sum)	0.044					0.004***	
	(0.032)					(0.000)	
Number of appeals	−0.042+	−0.011	−0.003	−0.003	−0.003	−0.003***	−0.060**
	(0.023)	(0.008)	(0.011)	(0.011)	(0.007)	(0.000)	(0.021)
Average valence							−14.439*
							(5.822)
Average valence X number of appeals							0.080**
							(0.029)
Intercept	55.285***	55.248***					
	(2.019)	(2.027)					
N	1 291 290	1 291 290	1 291 290	1 291 290	1 291 290	1 291 290	1 291 290
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: Group			✓	✓	✓	✓	✓
FE: Wave				✓	✓	✓	✓
FE: Party					✓	✓	✓

H BESIP estimates with individual-level fixed effects

Table H1 presents estimates from various specifications of the model on the panel subset of the data. The difference from Table 1 is therefore solely in the inclusion of individual-level fixed effects.

Table H1: Estimates from regressing group linkages on group appeals.

	Model 1	Model 2	Model 3	Model 4
Net valence (sum)	0.147***	0.156***	0.167***	0.084*
	(0.040)	(0.041)	(0.046)	(0.035)
Number of appeals	−0.101***	−0.109***	−0.118***	−0.059*
	(0.023)	(0.023)	(0.028)	(0.024)
N	1 157 783	1 157 783	1 157 783	1 157 783
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: Group	✓	✓	✓	✓
FE: Wave			✓	✓
FE: Party				✓
FE: ID		✓	✓	✓

Models 1-4 in Table H1 differ in terms of the number and composition of fixed effects. The estimate of interest, *Net valence*, is in the top row. As shown, the coefficient on net valence is consistently positive and statistically significant. The coefficient is fairly robust in terms of magnitude, ranging between .08 and .17 across specifications even as individual-level fixed effects are added.

I Varying exposure windows

Figure I1 shows estimated coefficients on net valence from our main specification (including group, party and wave fixed effects) across varying window sizes: 60 days, 75 days, 90 days (as in our main results), 105 days, and 120 days. Table I1 shows the underlying regression estimates.

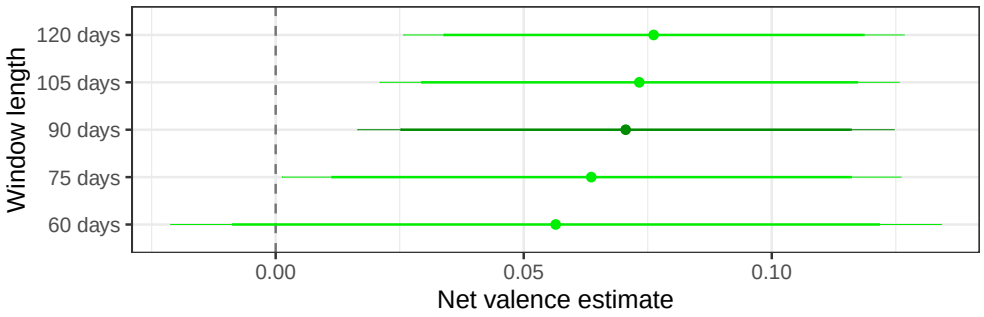

Figure I1: Estimates from regressing group linkages on net valences based on 2, 2.5, 3, 3.5, and 4 month exposure windows.

Table I1: Estimates from regressing group linkages on group appeals, varying exposure window length.

	60 days	75 days	90 days	105 days	120 days
Net valence (sum)	0.056	0.064*	0.071*	0.073**	0.076**
	(0.040)	(0.032)	(0.028)	(0.027)	(0.026)
Number of appeals	−0.044+	−0.050*	−0.053*	−0.056**	−0.061**
	(0.025)	(0.022)	(0.020)	(0.020)	(0.019)
N	1 325 239	1 325 239	1 325 239	1 325 239	1 325 239
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: Group	✓	✓	✓	✓	✓
FE: Wave	✓	✓	✓	✓	✓
FE: Party	✓	✓	✓	✓	✓

J Heterogeneity across group types

Table J1 shows the estimates underlying Figure 6a. Table J2 shows the estimates underlying Figure 6b.

Table J1: Estimates from regressing group linkages on group appeals, by group type.

	Religious	Class	Age	Gender	All
Net valence (sum)	1.577**	0.134**	0.126	−0.020	0.087*
	(0.295)	(0.050)	(0.084)	(0.079)	(0.036)
Number of appeals	−0.845***	−0.082*	−0.139+	0.014	−0.060**
	(0.141)	(0.033)	(0.071)	(0.074)	(0.023)
N	33 322	840 467	139 403	36 980	1 285 515
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: Group	✓	✓	✓	✓	✓
FE: Wave	✓	✓	✓	✓	✓
FE: Party	✓	✓	✓	✓	✓

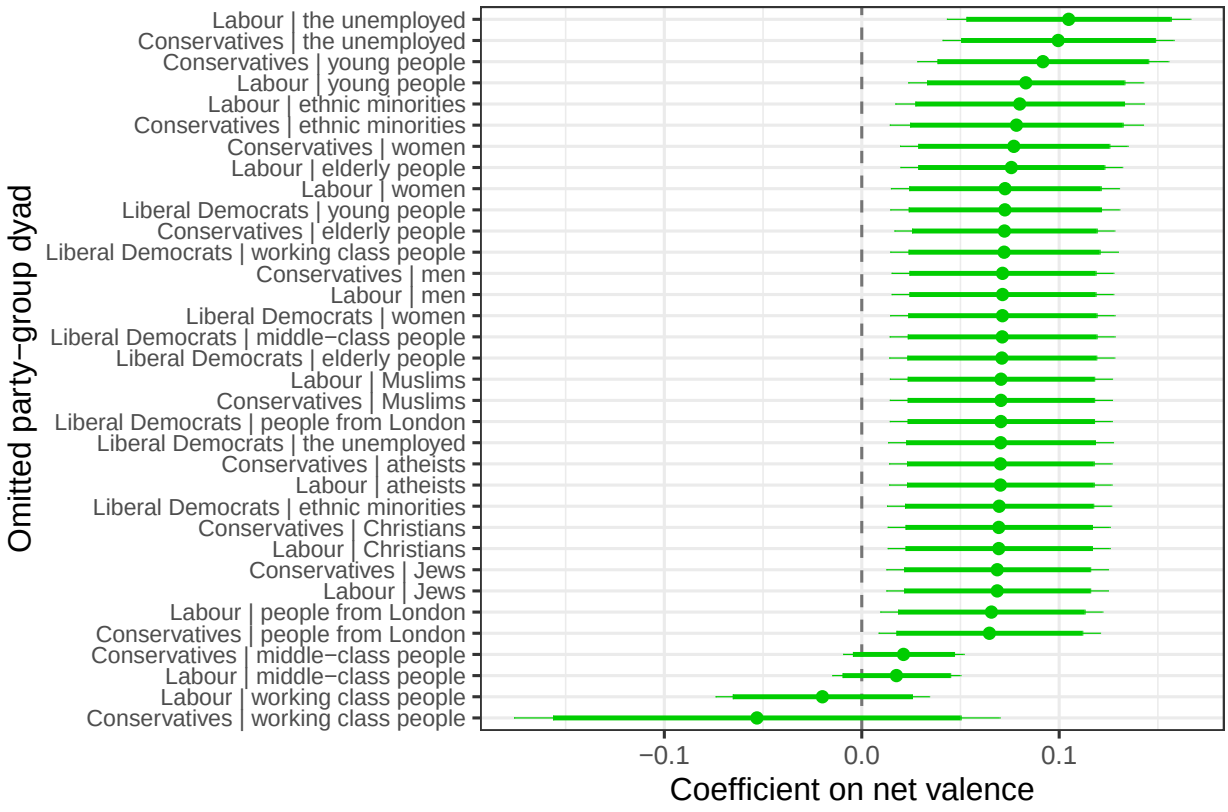

Figure J1: Estimates from regressing group linkages on net valences leaving out one dyad at a time.

Table J2: Estimates from regressing group linkages on group appeals, omitting each group.

	Atheists	Christ.	Jews	Muslims	Middle class	Working class	Unemp-loyed	Young	Elderly	Men	Women	Blacks & Asians	Lond-oners	All
NV (sum)	0.070*	0.069*	0.069*	0.071*	0.020	0.145	0.106***	0.094**	0.076**	0.071*	0.081**	0.078*	0.065*	0.087*
	(0.028)	(0.028)	(0.028)	(0.028)	(0.016)	(0.182)	(0.031)	(0.033)	(0.028)	(0.028)	(0.030)	(0.034)	(0.028)	(0.036)
N of app.'s	−0.053*	−0.052*	−0.052*	−0.053*	−0.018	−0.141	−0.077***	−0.064**	−0.055**	−0.054**	−0.058**	−0.059*	−0.049*	−0.060**
	(0.021)	(0.020)	(0.020)	(0.020)	(0.012)	(0.157)	(0.022)	(0.022)	(0.021)	(0.020)	(0.021)	(0.026)	(0.021)	(0.023)
N	1 317 343	1 316 839	1 316 664	1 316 788	1 024 591	1 020 484	1 090 175	1 263 583	1 247 492	1 313 473	1 300 025	1 110 409	1 265 002	1 285 515
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: Group	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FE: Wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FE: Party	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

K The moderating role of policy

Table K1 shows the estimates underlying Figure 7a.

Table K1: Estimates from regressing group linkages on group appeals, by explicit policy mention.

	All appeals	Appeals without policy	Appeals with policy
Net valence (sum)	0.071*	0.069*	1.003**
	(0.028)	(0.029)	(0.326)
Number of appeals	−0.053*	−0.052*	−0.758**
	(0.020)	(0.022)	(0.268)
N	1 325 239	1 325 239	1 325 239
Std.Errors	dyad-wave	dyad-wave	dyad-wave
FE: Group	✓	✓	✓
FE: Wave	✓	✓	✓
FE: Party	✓	✓	✓

L Measuring explicit references to policy

Explicit policy mention codebook: bill*, legislat*, policy*, polici*, law*, amendment*

Appeals with explicit policy mention	Appeals without explicit policy mention
That provision, which is discriminatory and applies only to Roman Catholics, is wrong and should be removed from our statute law.	Our young men in particular are missing the boat, and the proportion of young males going to university is lower than it was in 1999.
Because of the Government's slash and burn policy, 70% of councils are having to cut social care, leaving old people to choose between help with washing and help with eating.	It is extraordinarily difficult for the elderly or the injured to get in and out of their home.
Reimbursement and other proposals in the Bill will lead to increased quality and choice for older people.	Tens of thousands of Catholics in Wales are in mourning, and we stand in sympathy and support with them.
All politicians talk about giving older people dignity and security, and a nationwide policy on pets could help lift one particular burden from many older people.	The honorable Gentleman says that he does not care whether 10% or 90% of MPs are women, but I care.
The Bill is not about men versus women, but about true equality between men and women, and I therefore commend it to the House.	One of my key ambitions in my new role is to raise the status of social workers in our society.
We have also invested in programmes and policies to respond to the specific needs of black, Asian, and minority ethnic groups-for example, through outreach programmes to help economically inactive minority ethnic women into work.	I know that there is concern about the potential, random industrialisation of the countryside.
The changes in the Bill will support the achievements of those young people from difficult backgrounds, such as those with special educational needs or disability.	That is the issue that the public and Jewish people have.
A 2019 report by the Women and Equalities Committee recognised that Gypsy, Roma, and Traveller communities are one of the most persecuted groups in Europe, yet the Government seek literally to persecute them further through the Bill.	I have no difficulty in reiterating, and joining the honorable Gentleman in acknowledging, the vast sacrifices made by the men of Ulster-it was men-during the first world war.

Table L1: Example sentences with and without explicit policy mentions

M Accounting for changes in party policy

To account for changes in party policy in the period under study, we use the V-Party dataset (Lindberg et al. 2022). The dataset includes expert-coded election-year assessments of party policy positions for the full range of parties and election years in our data (Pemstein et al. 2018). Several of the measured party positions more or less directly concern some of the groups we study, allowing us to capture changing policies for selected party-group dyads.

Table M1: V-Party survey items on party position and the groups they cover.

Policy position	**Covered group(s)**	**Item text**
Economic left-right	Working class people, middle class people, the unemployed	Please locate the party in terms of its overall ideological stance on economic issues. Clarification: Parties on the economic left want government to play an active role in the economy. This includes higher taxes, more regulation and government spending and a more generous welfare state. Parties on the economic right emphasize a reduced economic role for government: privatization, lower taxes, less regulation, less government spending, and a leaner welfare state. (7-point scale)
Welfare	Working class people, middle class people, the unemployed	To what extent does the party promote means-tested or universalistic welfare policies? (6-point scale)
Working women	Women	To what extent does this party support the equal participation of women in the labor market? Clarification: Measures that support the equal participation of women in the labor market include - but are not limited to - legal provisions on equal treatment and pay, parental leave and financial support for child care. (5-point scale)
Cultural superiority	Ethnic minorities	To what extent does the party leadership promote the cultural superiority of a specific social group or the nation as a whole? Clarification: This question refers to key non-economic cleavages in society, which could, for example, be based on caste, ethnicity, language, race, region, religion, or some combination thereof. This question further refers to cultural issues related to the national history and identity of a country. This question does not pertain to social groups based on gender or sexual orientation. (5-point scale)

Specifically, we merge four party policy variables from V-Party into our dataset: one on overall economic left-right position, one on welfare, one on women, and one on cultural superiority. These allow us to run versions of our main analyses that are subset to these group types while controlling for changing party policy with respect to the group. See Table M1 for an overview of these items. Note that some items are a better fit for the group than others; in particular, the 'cultural superiority' item is only partially about policy towards ethnic minorities.

We run our main regression specification for each row in Table M1, subsetting to the group(s) in the second column with and without controlling for the corresponding policy item in the first column. The results are shown in Table M2. As shown, point estimates remain significant when controlling for changes in party position and barely change . This also holds when we re-run our main model on all groups with all four policy position variables included. The only exception is for ethnic minority groups where a null estimate becomes a significant negative.

Table M2: Estimates from regressing group linkages on net valence and counts of group mentions, controlling for relevant dimension of party policy position.

	Class	Class	Women	Women	Ethnic minorities	Ethnic minorities	All	All
Net valence (sum)	0.137**	0.142**	0.132*	0.190***	−0.018	−0.179*	0.071*	0.076*
	(0.051)	(0.052)	(0.049)	(0.034)	(0.040)	(0.069)	(0.029)	(0.031)
Number of appeals	−0.081*	−0.086*	−0.135**	−0.191***	0.005	0.113*	−0.052*	−0.057*
	(0.034)	(0.036)	(0.039)	(0.028)	(0.031)	(0.049)	(0.021)	(0.023)
Party: economy		−8.343						−3.644
		(9.980)						(6.634)
Party: welfare		−19.963						−15.657
		(20.984)						(13.666)
Party: women				−9.693**				5.085
				(2.289)				(6.484)
Party: cult. sup.						−6.225*		−12.849
						(2.874)		(13.390)
N	813 866	813 866	25 167	25 167	208 908	208 908	1 291 290	1 291 290
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: group	✓	✓	✓	✓	✓	✓	✓	✓
FE: wave	✓	✓	✓	✓	✓	✓	✓	✓
FE: party	✓	✓	✓	✓	✓	✓	✓	✓

N The moderating role of news consumption

To measure respondents' consumption of news media, we use repeated survey items from BESIP asking respondents in 12 waves: "During the last seven days, on average how much time (if any) have you spent per day following news about politics or current affairs from each of these sources?" for each of the following: television (TV), newspapers (including online), radio, internet (not including online newspapers), talking to other people. The response scale has five steps: "None, no time at all", "Less than 1/2 hour", "1/2 hour to 1 hour", "1 to 2 hours", "More than 2 hours" and "Don't know". While these variables capture very recent news consumption (the past week), we use them as a proxy for periods in which respondents are more attuned to the news. We focus just on the distinction between the consumption of any news and no news rather than the more granular time estimates, which are both more susceptible to recall bias and likely fluctuate substantially week-on-week over a 3-month period and thus would introduce excessive noise in our proxy measure.

To construct moderating variables, we focus on TV, newspapers and radio, which are the sources in which media reporting from parliamentary speeches can occur (once online newspapers are excluded from the 'internet' category). Thus, it is the consumption of these sources that we would expect to moderate the main effect of group appeals in parliamentary speeches. To distinguish those who currently consume news from those who do not, we construct binary indicator variables for each source, as well as a joint indicator variable for any news consumption across all three sources. We then interact each of these variables with our net valence variable in a panel model. We can thus estimate whether individuals are more responsive to group appeals in parliamentary speeches in periods where they follow the news. Note that there is only common coverage between the dependent variable and the media consumption variables in four waves (from 2017-2020), which limits the generalizability of the results.

Figure 7b in the main text shows estimated coefficients on net valence from our panel model specification (including group, party, wave and individual fixed effects) interacted with each news consumption indicator. Table N1 shows the underlying regression estimates. As shown, the coefficient on net valence is significantly larger in periods where respondents consume news compared to periods where they do not. The difference is substantial at around 12 percent of the baseline panel estimate in Table H1 (although note that this interaction model is run only on a subset of the panel model's data).

Table N1: Estimates from regressing group linkages on group appeals, moderated by recent news consumption.

	TV	Newspapers	Radio	Any news source
Net valence (sum)	0.275	0.281	0.282	0.273
	(0.167)	(0.168)	(0.168)	(0.167)
Number of appeals	−0.191	−0.192	−0.192	−0.191
	(0.120)	(0.120)	(0.120)	(0.120)
Consume news	−0.222	−0.474	0.463	0.142
	(0.712)	(0.605)	(0.414)	(0.740)
Net valence X consume news	0.009*	0.005	0.003**	0.010**
	(0.004)	(0.003)	(0.001)	(0.003)
Num.Obs.	276 723	276 993	277 847	273 911
Std.Errors	dyad-wave	dyad-wave	dyad-wave	dyad-wave
FE: Group	✓	✓	✓	✓
FE: Wave	✓	✓	✓	✓
FE: Party	✓	✓	✓	✓
FE: ID	✓	✓	✓	✓