

## Terrorism, perpetrators, and polarization: evidence from natural experiments

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# Terrorism, perpetrators and polarization: Evidence from natural experiments

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## Abstract

We analyze whether affective polarization can be aggravated by terrorism violence. Terrorist attacks intensify pre-existing ideological worldviews and partisan leanings and bring divisive political issues to the fore. Yet, they can also generate strong feelings of cohesion, solidarity and unity, as individuals from the entire political spectrum come together. To identify causal effects, we exploit a series of natural experiments in Great Britain and leverage the timing of fatal far-right and Islamic terrorist attacks and the date of interview of respondents in the British Election Study. We find that Islamic attacks increase affective polarization whereas far-right attacks depolarize the electorate. We provide evidence that this discrepancy can partly be explained by the perceived salience of attacks and different attitudes towards contentious and polarizing issues.

*Keywords:* Islamic terrorism; far-right terrorism; polarization; natural experiment

*Short title:* Terrorism, perpetrators and polarization

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Replication files are available in the JOP Dataverse (<https://dataverse.harvard.edu/dataverse/jop>). The empirical analysis has been successfully replicated by the JOP replication analyst. An online appendix with supplementary material is available at <https://doi.org/xxxxx>. Vincenzo Bove ([v.bove@warwick.ac.uk](mailto:v.bove@warwick.ac.uk)) is a professor of political science at the University of Warwick, Coventry, CV4 7AL, United Kingdom. Riccardo Di Leo ([riccardo.dileo@eui.eu](mailto:riccardo.dileo@eui.eu)) is a research fellow at the European University Institute, San Domenico di Fiesole, I-50014, Italy. Georgios Efthymoulou ([g.efthymoulou@sheffield.ac.uk](mailto:g.efthymoulou@sheffield.ac.uk)) is a senior lecturer in economics at the University of Sheffield, Sheffield, S1 4DT, United Kingdom. Harry Pickard ([harry.pickard@newcastle.ac.uk](mailto:harry.pickard@newcastle.ac.uk)) is a lecturer in economics at Newcastle University, Newcastle upon Tyne, NE1 4SE, United Kingdom.

# 1 Introduction

Terrorism, as an act of violence targeting civilians, carries significant implications for domestic public opinion and in-group identification. In this article, we analyze whether and how terrorism influences affective polarization, the extent to which citizens hold positive feelings for the in-group and negative feelings for the out-group (Iyengar, Sood and Lelkes, 2012, p. 407). As political parties can serve as the groups towards which individuals develop strong positive or negative identifications, affective polarization is commonly captured by the divergence in affect towards parties (Wagner, 2021).

In the aftermath of terrorist attacks, fear and anxiety can grip societies, and there is a general sense of vulnerability among the public. The heightened state of insecurity often leads to a shift in public attitudes towards divisive issues like immigration, national security, and civil liberties (Legewie, 2013; Nussio, Böhmelt and Bove, 2021; Epifanio, Giani and Ivandic, 2023), as individuals seek answers and solutions to prevent future attacks. This can amplify existing divisions and ideological differences, resulting in a more polarized environment. However, the emotional reactions to terrorism also have the potential to foster a collective sense of outrage, engendering heightened levels of tolerance and solidarity, ultimately working to depolarize the public. Which of these effects prevail is an empirical question. In particular, the exact influence of terrorism on public responses can hinge on various factors, with the identity of the perpetrator (Godefroidt, 2023) and the chosen target (Shanaah et al., 2023) being among the most important determinants.

Against this background, we investigate how the impact of terrorism on affective polarization varies with respect to the nature of the attacks. We exploit a series of natural experiments, and leverage the timing of four fatal far-right and Islamic terrorist incidents in Great Britain and the date of interview of respondents in the British Election Study. Our identification strategy relies on the assumption that the timing of attacks is exogenous and largely randomly assigned relative to that of the interviews, and thus individuals interviewed after the attack can be defined as the 'treatment' group whereas those inter-

viewed before the attack can be defined as the 'control' group ([Muñoz, Falcó-Gimeno and Hernández, 2020](#)). We complement this analysis with evidence stemming from Twitter data, which allows us to shed light into some of the underlying dynamics.

We find that terrorism does contribute to shaping affective polarization in important ways, but the very direction and magnitude of its impact is conditional on the type of terrorism violence: whereas Islamic attacks increase affective polarization, far-right attacks decrease it. We also provide evidence in favor of two explanations for this discrepancy. First, Islamic and far-right attacks have different targets and are often framed differently by politicians and the media, which can influence the perceived salience of the incident and the resulting threat perceptions. Second, the two types of terrorism lead to different attitudes towards contentious and polarizing issues; such as the extent to which citizens support immigration and the 'far-right'. When we explore which partisan groups respond most strongly to terrorism, we observe that Conservatives are more likely to shift away from right-wing positions following far-right attacks. Conversely, after Islamic attacks, both Conservative and Labour supporters tend to polarize, although the effect is not precisely estimated. The latter attacks also seem to induce partisans at the center to center-left of the political spectrum to move affectively closer to the Labour Party.

Analyzing the impact of terrorism on affective polarization is important to understand how political violence exacerbates political fragmentation, hindering social cohesion and the pursue of evidence-based policies. This is all the more relevant as polarization has grown steadily in advanced Western democracies since the 1980s ([Iyengar, Sood and Lelkes, 2012](#); [Gidron, Adams and Horne, 2020](#); [Boxell, Gentzkow and Shapiro, 2024](#)). Scholarship seeking to explain rising polarization has implicated demographic changes, inequalities, immigration, and key transformations of the media environment, notably the introduction of digital TV and high-speed internet (see, e.g., [Mason, 2015](#); [Gidron, Adams and Horne, 2020](#); [Boxell, Gentzkow and Shapiro, 2024](#)).

We contend that affective polarization also responds to unexpected shocks to public

awareness of domestic security, in particular acts of terrorism. Given its history of contentious politics and the presence of two dominant parties marked by longstanding divisions, Great Britain presents an ideal case study for understanding affective polarization outside the paradigmatic case of the United States (US) (Marchal and Watson, 2019). The British public displays some of the highest levels of polarization among OECD countries, prompting political commentators to warn about the increasing “tribalization” of British politics (Duffy et al., 2019). Although the 2016 EU referendum sliced through party lines, partisan identities and traditional cleavages along the left-right ideological spectrum have never disappeared (Schumacher, 2019).<sup>1</sup> In fact, data from Boxell, Gentzkow and Shapiro (2024) show that affective polarization has been consistently higher in Britain than in the US, particularly when restricting attention to the two largest parties. At the same time, Great Britain has a long history of terrorism and political violence within its borders. Not surprisingly, the British public has long perceived terrorism as a direct risk to themselves or their families, and terrorism frequently ranks in the top two most important issues among voters (Goodwin, Willson and Stanley Jr, 2005; Bozzoli and Müller, 2011; Bove, Efthymoulou and Pickard, 2022).

In what follows, we develop arguments for the “unconditional” impact of terrorism on affective polarization and put forward two competing hypotheses. We then discuss whether its effect is conditioned by the attack typology, making a distinction between Islamic and far-right attacks.

## 2 How terrorism affects polarization

Extant explanations of the causes of affective polarization often appeal to the inherent psychology of group status (e.g., Iyengar, Sood and Lelkes, 2012), or connect it to perceived

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<sup>1</sup>The prospect of upcoming elections triggered a notable decline in voters emphasizing Brexit as the primary concern for Britain, while other issues gained prominence. This shift in focus occurs alongside parties’ reluctance to find common ground, evident in their increasingly polarizing policies. Available [online](#).

ideological differences between partisans (e.g., [Marchal and Watson, 2022](#)). The first explanation is largely rooted in the social psychology literature, which finds that group membership even based on 'trivial' characteristics tends to trigger positive affective responses towards group members, and negative feelings towards out-groups ([Mackie, Devos and Smith, 2000](#); [Smith, Seger and Mackie, 2007](#)). These dynamics do not require policy or value attitudes, as terrorist acts trigger polarization through their psychological effects, which shape emotions and cognitions. Terror Management Theory (TMT) suggests that terrorist incidents remind the public about the inevitability of death, which they manage through cultural and ideological worldviews ([Pyszczynski, Solomon and Greenberg, 2003](#)). Terrorist incidents are thus theorized to trigger 'ideological intensification', wherein audiences entrench their commitment to pre-existing cultural worldviews, including "religious beliefs and political ideology, that convey shared values and dictate normative behavior" ([Huddy and Feldman, 2011](#), p.2). Terrorism is also shown to increase prejudicial attitudes towards out-groups or members of different cultural communities (see, e.g., [Legewie, 2013](#); [Ferrín, Mancosu and Cappiali, 2020](#)). We expect the activation of this 'ideological intensification effect' to deepen pre-existing partisan leanings, leading to increased affective polarization.

A second related explanation builds on the idea that there is an 'irreducible ideological component to affective polarization' ([Marchal and Watson, 2022](#), p.3). Affective polarization is driven by large ideological differences between parties and candidates, because this makes electoral choice more consequential in the minds of partisans ([Rogowski and Sutherland, 2016](#)). As such, terrorist acts might aggravate polarization by making divisive political issues even more salient and contentious. This might also translate into increased support for "hawkish" political parties advocating for stringent immigration policies and more support for restrictions on fundamental individual rights and liberties as counter-terrorism measures ([Epifanio, 2016](#); [Kim, 2016](#); [Bove, Böhmelt and Nussio, 2021](#)).

Debates over border control, immigration and refugee policies are highly polarized,

especially in the UK (Hutter and Kriesi, 2022, p. 349). Thus, terrorism might stoke ideological divides by bringing counter-terrorism methods to the fore, such as border controls – which relate to “fundamental issues of rule and belonging and tap into various sources of conflict about national identity, sovereignty, and solidarity” (Hutter and Kriesi, 2022, p. 341). A similar dynamic might occur with respect to debates over de-radicalization and assimilation, an issue area which is similarly highly polarized (Clubb et al., 2019). Overall, political issues which involve themes of national identity and multiculturalism are particularly influential in exacerbating affective reactions (Gidron, Adams and Horne, 2020). Terrorist attacks might also prime the salience of debates over domestic security, and, in particular, over surveillance and anti-terrorism measures which curtail personal freedoms (Bozzoli and Müller, 2011; Hansen and Dinesen, 2022; Epifanio, Giani and Ivandic, 2023). The heightened salience of restrictive surveillance and anti-terrorism measures can intensify affective polarization: individuals distinguish themselves from partisan out-groups by taking position on these policies, and by becoming more entrenched in their support for (or opposition to) them, according to their pre-existing affiliation.

The above arguments, positing ideological and psychological explanations connecting terrorism to affective polarization, point to the following hypothesis:

*Hypothesis 1a: Terrorist acts increase affective polarization.*

That said, although terrorism aims to create widespread fear and uncertainty, it could also have unintended consequences and depolarize society. By generating a shared sense of negative experience and psychological trauma among the population, terrorism can create strong positive feelings of cohesion, solidarity and unity, as people come together to support each other. This sense of unity can be a powerful coping mechanism that helps people deal with the collective trauma of terrorism violence (Rimé et al., 2010).

This effect is often reinforced by the public's heightened level of trust in the nation. In fact, international crises and global threats, such as Islamic terrorism, often trigger a

'rally round the flag' effect, wherein citizens exhibit increased trust in government and approval of national leaders (Mueller, 1970; Dinesen and Jæger, 2013). When such a dynamic is observable, the public responds with a short-term patriotic boost of support for the incumbent (Mueller, 1970) and a cross-partisan consensus often emerges. At the same time, following a terrorist attack, political leaders and the media emphasize unity and solidarity across ethnic, religious, and political differences (Ezzati, 2021; Falcó-Gimeno, Muñoz and Pannico, 2023; Efthyvoulou, Pickard and Bove, 2024). Psychologically, the public might be particularly receptive to such narratives, as people may feel a renewed sense of connection to their fellow citizens and a deeper understanding of what it means to be a member of the same community. In conclusion, stronger feelings of unity and solidarity and calls for national cohesion are likely to unite (rather than divide) the public, ultimately working to depolarize it. Consistent with this discussion, we formulate a countervailing hypothesis:

*Hypothesis 1b: Terrorist acts decrease affective polarization.*

## 2.1 Perpetrators and victims

As Godefroidt (2023, p.34) eloquently puts it, "it might not be the threat of violence per se that is driving public reactions to terrorism, as is often assumed, but rather the threat of violence perpetrated by specific [...] actors". The identity of the target of a terrorist attack, in addition to that of the attacker, can explain why certain public attitudes change in its aftermath (and in which direction) (Shanaah et al., 2023). On the one hand, Islamic terrorism is perpetrated by minority groups, driven by religious extremism, and targeting random civilians (Jakobsson and Blom, 2014; Shanaah et al., 2023). In this category, we consider two attacks: first, the 2017 Manchester Arena attack, a suicide bombing orchestrated by a jihadist-affiliated individual with the aim to cause widespread casualties and instill fear; second, the 2019 London Bridge stabbing, which involved a perpetrator driven by jihadist ideologies, aiming to sow panic and disrupt public life. These attacks targeted random citizens in densely populated urban areas. On the other hand, right-wing terrorist acts are

typically carried out by white men who endorse white supremacy, ethno-nationalism, and anti-immigrant sentiments. Their targets tend to be minority groups or specific individuals perceived as threats to their cultural or racial identity (Jakobsson and Blom, 2014; Ravndal, 2016; Shanaah et al., 2023). In this category, we also consider two attacks: first, the 2016 MP Jo Cox murder, a politically and ideologically motivated act fueled by far-right extremism; second, the 2017 Finsbury Park attack, a retaliatory act against the Muslim community, driven by far-right ideologies. Notably, both these attacks targeted specific individuals: an immigration advocate MP and Muslim worshippers, respectively.

The identity of the perpetrator matters, as it influences the degree to which the dynamics described above come into play in shaping the impact of terrorism on polarization. For one, the identity of the perpetrator significantly shapes the way violent acts are framed by policymakers and the media. As Meier (2020, p.4) illustrates, there is a “dual tendency to call violence by non-white perpetrators ‘terrorism’ while not doing the same for white supremacist violence”. This is linked to the fact that Islamic terrorism is uniquely perceived as an upheaval of the existing social order in Western states. Powell (2011)’s study of US news coverage of terrorist attacks since 9/11 similarly finds a thematic pattern, wherein Islamic terrorism is cast as the product of organized cells, representing a sustained threat, whereas domestic terrorism is cast as a minor threat, occurring in isolated incidents caused by troubled individuals. The coverage of MP Jo Cox murder is a case in point: several UK media outlets described the perpetrator as a ‘crazed loner’, despite his affiliation with organized Neo-Nazi groups (Greenwald, 2016). Baele et al. (2019) document a ‘terrorist label effect’: the differences in perceptions of an attack enacted when it is labelled as ‘terrorism’ or as an ‘Islamist attack’ as opposed to being described in more neutral terms. Thus, the perception that Islamic terrorist attacks as a product of organized terrorist cells leads to heightened salience of debates over controversial public policy responses which stoke polarization. At the same time, it is the perceived potential for terrorist attacks to target random people that significantly amplifies fear and anxiety among

the general public (Crenshaw, 2000).

As such, debates over polarizing issues, such as counter-terrorism methods, become more salient when attacks are popularly labelled as terrorism and when they have the potential to target everyone, as individuals seek solutions to mitigate the risk of becoming victims in future attacks. This seems to occur exclusively in cases of Islamic attacks. And a cultural backlash against immigrants can only be activated by Islamic terrorism (Germann, Godefroidt and Mendez, 2022), given that far-right terrorists are usually “majority citizens hosting extreme anti-minority ideas” (Jakobsson and Blom, 2014, p.477). This backlash in turn contributes to the divisive debate on the link between terrorism and border control or the social assimilation of immigrants (Helbling and Meierrieks, 2022).

Terrorist attacks are also more likely to cause heightened support for conservative parties and policies (see, e.g., Brouard, Vasilopoulos and Foucault, 2018; Aytaç and Çarkoğlu, 2021). Yet, surges in support for right-leaning parties can fuel affective polarization to the extent that such parties’ rhetoric tends to centre around antagonistic divisions in society – for example, between ‘natives’ and ‘non-natives’ – creating tensions between the two main political camps. In contrast to a simple conservative shift, we expect political ideology to become more intensified on both the political left and the political right, following an Islamic attack. The discourse that characterized the aftermath of the Manchester Arena bombing reflects this dynamic: a number of right-wing politicians from the UK and abroad linked the attack to immigration, which prompted a backlash from left-wing politicians. Political statements following the attack also reflected a wave of hardened popular attitudes to immigration.<sup>2</sup>

It should be noted that affective polarization might be mitigated by Islamic terrorist acts if stronger feelings of solidarity and unity and the accompanying ‘rally round the flag’ effect are the dominant dynamics in their wake. Yet, we expect the effects of such dynamics to be small in comparison with terrorism’s other cognitive and attitudinal effects, such

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<sup>2</sup>Available [online](#).

as its stoking of out-group hostilities (Legewie, 2013; Godefroidt, 2023). Thus, in cases of Islamic terrorism, 'unity' dynamics might be overwhelmed by the countervailing ones of out-group hostility and support for particularly controversial policy areas, which have larger-magnitude effects on polarization. If anything, these 'unity' dynamics should mitigate the otherwise positive impact of Islamic terrorism on polarization. This discussion leads us to formulate the following hypothesis:

*Hypothesis 2a: Islamic attacks increase affective polarization.*

What about far-right attacks then? How do "people respond to a minority group being targeted by a majority group terrorist" (Shanaah et al., 2023, p.1)? As mentioned before, fear of being targeted in future attacks – and thus the need to develop appropriate counter-terrorism measures – should not be as relevant as in the case of Islamic attacks, since far-right terrorism specifically targets minority groups or influential elites, while jihadist attacks tend to be more indiscriminate (Jakobsson and Blom, 2014; Shanaah et al., 2023). At the same time, unlike Islamic attacks that stoke intergroup conflict, homegrown far-right terrorism does not trigger out-group hostility or support for controversial policies such as restricting migration (Jakobsson and Blom, 2014).

That said, in contrast to the previous hypothesis, we argue that far-right terrorist attacks may actually *dampen*, rather than aggravate, affective polarization: by increasing cohesion and solidarity, by decreasing popular support for some divisive right-leaning stances, and by forcing conservative parties to tone down their rhetoric on key issues, such as national identity or immigration. Jakobsson and Blom (2014) suggest that, after the 2011 far-right terrorist attack in Norway, hostility towards the perpetrator, a white Norwegian, may have caused cognitive dissonance, leading people to dissociate from the terrorist and his ideas. They refer to the "black sheep effect", a phenomenon that describes how individuals tend to perceive transgressions committed by a member of the in-group in a more adverse light than transgressions committed by outsiders, as such behavior poses possible threats to the overall image of the group. When far-right attacks

occur, the public is confronted with poignant images of ethnic minorities suffering, being harmed, or grieving due to the actions of white extremists. These images evoke a visceral reaction, tapping into powerful norms that emphasize empathy and compassion. In societies where special legal protections are extended to minorities due to their historical vulnerability and persecution, these visuals can trigger empathetic responses among the general population. Hence, the instinctual reaction within the general population would typically involve distancing oneself from the terrorist and his ideology. This could manifest through the expression of tolerance, openness and solidarity – i.e., attitudes sharply contrasting with those held by the terrorist (Jakobsson and Blom, 2014; Solheim, 2020; Shanaah et al., 2023) – and lead to a decrease in polarization, as people rally behind shared values of acceptance and inclusivity.

When a far-right terrorist attack occurs, it also creates a shared sense of outrage among political parties. This shared outrage can lead to a decrease in polarization, as politicians across the political spectrum come together to condemn the perpetrators. Far-right parties are forced onto the defensive, and respond with public declarations of condemnation and a softened rhetoric.<sup>3</sup> Whereas, in the case of Islamic terrorism, out-group hostility and nationalism appear to be influential factors that contribute to societal polarization, right-leaning parties are unable to incorporate non-Islamic and far-right attacks into their ‘native’ versus ‘non-native’ narrative effectively. Thus, the polarizing effects of some core tenets of a right-wing political ideology are expected to decrease in the wake of far-right terrorism. This discussion leads us to formulate our final hypothesis:

*Hypothesis 2b: Far-right attacks decrease affective polarization.*

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<sup>3</sup>This dynamic was evident in the party infighting within the UK Independence Party (UKIP) in the aftermath of the Finsbury Park attack. Anne Marie Waters, a leadership candidate for the party at the time, tweeted that the attack was ‘war’, which would not have occurred ‘if not for Islam’ – a statement for which she was rebuked by the UKIP leader Paul Nuttall, and subsequently deselected. Available online: [here](#) and [here](#).

## 3 Empirical design

### 3.1 Data and variables

We use individual-level data from the British Election Study (BES), an internet panel survey with a stratified random probability sample of citizens living in England, Scotland and Wales. BES runs from February 2014 (wave 1) to December 2019 (wave 19), and contains questions designed to capture the respondents' political behavior and attitudes on a range of topical issues.

Our main outcome variable relies on the following question: "How much do you like or dislike each of the following parties?"; with possible responses ranging along an 11-point scale from 0 "Strongly dislike" to 10 "Strongly like" (commonly referred to as like-dislike scores). We exploit the answers to this question when asked about the two (largest) mainstream political parties in the UK, and create a measure of party affinity distance. Specifically, our outcome variable, *Affective Polarization*, is calculated as the absolute difference between the like-dislike scores for the right-leaning Conservative Party and the left-leaning Labour Party, with higher values indicating stronger (relative) affect for one of the two parties. For example, the maximum value of 10 is recorded for an individual if they answer "Strongly like" (value 10) about one party and "Strongly dislike" (value 0) about the other.

Whilst there is no single agreed way of measuring affective polarization, the extent to which citizens like one party and dislike another one has been commonly used in the related literature (see, e.g., [Iyengar, Sood and Lelkes, 2012](#); [Rogowski and Sutherland, 2016](#); [Ward and Tavits, 2019](#)). This is mainly due to the broad availability of like-dislike scores, as this is one of the few questions that is asked systematically in surveys. Moreover, it allows researchers to measure affective polarization for all individuals (both non-partisans and partisans alike) and develop an understanding of citizens' self-images and prejudicial feelings in a way that goes beyond traditional concepts of partisanship ([Wagner, 2021](#)). In

standard like-dislike questions, respondents can answer on a continuous scale to express a variety of views, such as adoration, apathy and hostility (Ward and Tavits, 2019), thus tapping into the essence of affective polarization; namely, an overall positive or negative reaction to parties (Wagner, 2021).

We choose to rely on a two-party measure for a number of reasons. First, even though the British elections are multiparty affairs, politics in Britain is essentially centered around the two mainstream parties.<sup>4</sup> Arguably, a key to understanding a society's affective polarization is whether the most important parties for the political system and government formation are affectively distant or not. Second, when assessing social divides, it matters more if the liked and disliked parties are seen as rival parties that can be placed at the two 'poles' of the left-right political spectrum than if a citizen happens to like a centrist-moderate party (e.g., the Liberal Democrats) or a regional one (e.g., the Scottish National Party). Indeed, a multiparty measure of affective polarization works better in situations where all parties can be divided into two distinct left-right blocs or coalitions (Curini and Hino, 2012; Wagner, 2021), which does not always apply to the British case.<sup>5</sup> Third, in our empirical analysis, we leverage variations in affective polarization over time and across three different election periods. Thus, from a dynamic perspective, accounting for affective reactions to newly emerging parties – or to those that did not compete in all elections – can lead to comparability problems. It is important to underline though that our inferences do not change when we replace the two-party measure of affective polarization with multiparty ones (see *SI Appendix* Section C.2).

Using BES data, we also construct supplementary outcome variables to explore some

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<sup>4</sup>Conservatives and Labour have received the largest parliament seat shares in all general elections since World War II (e.g., they won together 86% and 89% of seats in the 2015 and 2017 elections, respectively), and have alternated in government and opposition ever since.

<sup>5</sup>Other studies analyzing affective polarization in Great Britain have also considered thermometer ratings for the two mainstream parties (see, e.g., Gidron, Adams and Horne, 2019). Similarly, the distance in political preferences for the two parties has been used to investigate the self-grouping of British citizens into like-minded communities (Efthymoulou, Bove and Pickard, 2023).

of the key dynamics underpinning our results. Specifically, we utilize information on what the respondent believes the most important issue facing the country is; preferences about immigration; and the like-dislike score for UKIP (as the main far-right party over the sample period). In addition, we consider the full range of respondents' socio-demographic attributes and their location of residence at the Local Authority District (LAD) level. A full description of all variables used in the analysis is provided in *SI Appendix* Tables B.1 and B.2.

### 3.2 Methodology

We exploit a series of natural experiments in Great Britain in which recent major terrorist attacks took place while the BES waves were being fielded. Under the assumption that the timing of terrorist attacks is exogenous relative to that of the survey rollout, we can define individuals in the "control" group as those interviewed before the attack and individuals in the "treatment" group as those interviewed after the attack ([Balcells and Torrats-Espinosa, 2018](#)). As such, by comparing responses in the two groups, we can credibly estimate the causal effect of terrorism on the outcome variable. This approach is also commonly referred to as the 'Unexpected Event during Survey Design' (UESD) – see [Muñoz, Falcó-Gimeno and Hernández \(2020\)](#).

We consider four major terrorist incidents that occurred over the period 2016-2019: the MP Jo Cox murder (June 16, 2016); the Manchester Arena bombing (May 22, 2017); the Finsbury Park attack (June 19, 2017); and the London Bridge stabbing (November 29, 2019). The rationale for this selection is twofold. First, they all coincided with recent BES waves; i.e., waves 8, 12, 13 and 18, respectively. Second, they all received widespread, national media coverage and resulted in at least one fatality. This implies that, irrespective of where the attacks occurred, the whole population was potentially exposed to them.<sup>6</sup>

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<sup>6</sup>As evidence of this exposure, *SI Appendix* Figures B.2 and B.3 present front pages of national newspapers reporting on the attacks.

Since these were the only major attacks between 2016 and 2019 that overlapped with the fieldwork of a BES wave, their choice is as random as their timing.<sup>7</sup> Another advantage of using these four specific attacks is that they can be neatly separated by perpetrator type: the MP Jo Cox murder and the Finsbury Park attack were committed by far-right extremists, whereas the Manchester Arena bombing and the London Bridge stabbing were carried out by Islamist extremists. This juxtaposition is crucial for testing *Hypotheses 2a* and *2b*. Finally, the fact that both the Finsbury Park attack and the London Bridge stabbing took place in London and resulted in a similar number of victims allows us to isolate the conditioning effect of perpetrator type from other confounding factors.<sup>8</sup>

We estimate the following model specification:

$$y_{idw} = \alpha + \beta Post-attack_{idw} + \delta \mathbf{X}_{idw} + \lambda_{dw} + \varepsilon_{idw} \quad (1)$$

where  $y_{idw}$  is the degree of affective polarization for individual  $i$ , living in LAD  $d$ , and interviewed in wave  $w$ ;  $Post-attack_{idw}$  is a binary indicator that takes value 1 if the individual was interviewed after the date of an attack, and 0 otherwise;<sup>9</sup>  $\mathbf{X}_{idw}$  is a vector of covariates that includes age, age squared, and dummies for the following: females, White-British ethnicity, whether the individual has children, highest level of education (below GCSE; GCSE/A-level/Diploma; Bachelor's degree or above), employment status (employed; student/other; retired; unemployed/not working), marital status (single; in a relationship; separated/divorced/widowed), and religious affiliation (no religion; Christianity; Islam; other religions);  $\lambda_{dw}$  represents LAD-by-wave fixed effects; and,  $\varepsilon_{idw}$  is an error term, clus-

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<sup>7</sup>We exclude from our analysis the 2017 London Bridge attack (June 3, 2017). This Islamic attack occurred 4 days before the end of BES wave 12, and only 11 days after the Manchester Arena bombing, which creates an overlap between the treatment and control groups for the two attacks. Also, the fact that the incident occurred shortly after another highly salient Islamic terrorist event poses a problem of compound treatments (Muñoz, Falcó-Gimeno and Hernández, 2020).

<sup>8</sup>*SI Appendix* Section A offers background material on the four sampled attacks, and *SI Appendix* Figure B.1 presents a map with the location and key characteristics of these attacks.

<sup>9</sup>To avoid measurement errors, we exclude individuals who were interviewed on the day of the attack.

tered at the LAD level.

One important choice in UEDES is the bandwidth of days considered around the event date. On the one hand, using short time windows before and after the attacks can help to substantiate the as-if random treatment assignment assumption and to minimize the probability of other events driving the estimated effects. On the other hand, very narrow bandwidths are associated with small sample sizes (low statistical power) and effects that tend to be very local, which can limit the generalizability of the results. To trade off these opposing concerns, our baseline specification employs a 7-day bandwidth; that is, we compare responses 7 days before and 7 days after the attacks. In this way, we rely on a relatively narrow bandwidth without compromising the statistical power of our analysis, even when we run separate regressions for each individual attack. Nevertheless, in *SI Appendix* Section C.5, we show that our results are robust to employing a tighter, 3-day bandwidth. The similarly-sized estimates across the 3-day and 7-day bandwidths also suggest that the observed patterns are not driven by a dramatic spike in people's responses in the first couple of days after the attacks.

### 3.3 Threats to identification

The identification of valid causal estimates hinges on two key assumptions: excludability (differences between treatment and control groups are the sole consequence of the terrorist event) and ignorability (selection of the moment of interview should be as good as random).

The primary threat to excludability is that our treatment effect can be explained by pre-existing time trends. We perform two tests to address this possibility. First, we control for the lagged dependent variable: that is, individual  $i$ 's level of affective polarization as recorded in the previous wave. This 'dynamic' specification allows us to account for the baseline (individual-specific) value of the outcome variable and mitigate concerns of omitted variable bias (Bove, Efthymidou and Pickard, 2022). Second, we directly test for

pre-existing trends by considering placebo treatments at an arbitrary time point to the left of the cutoff points (see *SI Appendix* Section C.4).

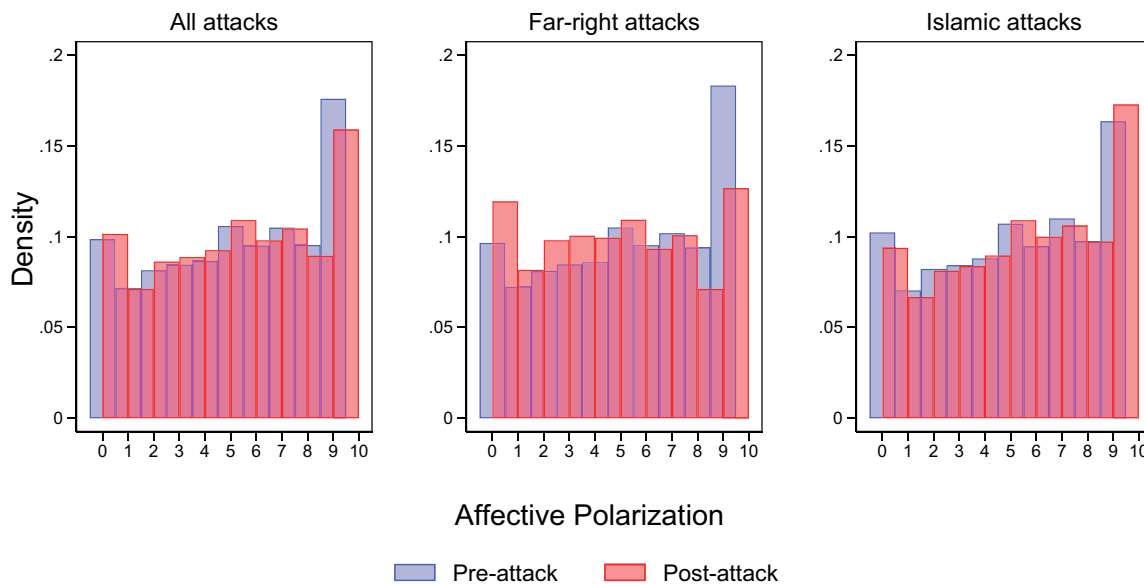
The main threat to ignorability comes from the possibility that individuals of specific characteristics are more likely to appear in the treatment or the control group. In *SI Appendix* Table B.3, we conduct balancing tests comparing individuals interviewed before and after the attacks across the observed characteristics in vector  $\mathbf{X}_{idw}$ . Overall, the results reveal a strong balance across the two groups for most of the covariates. Even though a couple of them (i.e., age and employment status) show a statistically significant difference in means across treatment and control units, the magnitude of this difference is very small and therefore could not sensibly indicate a violation of the ignorability assumption. Nevertheless, to ensure that our results are not affected by such minor differences, we report estimates both before and after augmenting the specification with vector  $\mathbf{X}_{idw}$ . We also show that our results hold when we re-weight the samples through entropy balancing ([Hainmueller, 2012](#)), such that the distribution of covariates among control units matches the moment conditions of the treated units (see *SI Appendix* Section C.6).

## 4 Empirical findings

### 4.1 Graphical evidence

Figure 1 presents the histogram of *Affective Polarization* in the week before and after the attacks when our sample includes all four attacks (left panel), the two far-right attacks (center panel) and the two Islamic attacks (right panel). Looking first at the full sample, the figure shows very little movement in the distribution of affective polarization when comparing the post-attack period to the pre-attack period. Turning next to the histograms for the two attack typologies, we can observe important differences. After far-right attacks, the distribution shifts to the left, indicating that individuals are reporting a less polarized view about the two mainstream parties. On the other hand, after Islamic attacks, the distri-

Figure 1: Distribution of affective polarization



Notes: The figure presents the density of *Affective Polarization* in the week before and after the attacks when our sample includes all four attacks (left panel), the two far-right attacks (center panel) and the two Islamic attacks (right panel).

bution shifts to the right, albeit the changes appear to be of a smaller magnitude relative to that of far-right attacks. Overall, this figure provides some first evidence in favour of *Hypotheses 2a* and *2b*. We now turn to regression analysis in order to establish and quantify the causal relationships.

## 4.2 Main results

Table 1 shows the OLS estimation results of Eq. 1. Columns (1) and (2) present the (average) treatment effect based on the full sample of all four attacks, before and after the inclusion of vector  $X_{idw}$  in the model. The evidence obtained suggests that terrorism has no effect on affective polarization, providing no substantiation for either *Hypotheses 1a* or *Hypotheses 1b*. This, however, may be driven by the fact that we have pooled together

two different typologies of terrorist actors with opposite effects on the outcome variable, as implied by *Hypotheses 2a* and *2b*. To test for this, we run the same regression set-up but now make a distinction between the two far-right attacks and the two Islamic attacks (see columns (4)-(5) and (7)-(8), respectively). The results are striking. Both types of terrorism seem to induce significant changes in the affective reactions to parties, but the effects are indeed in the opposite direction: far-right attacks decrease individuals' level of affective polarization, whereas Islamic attacks increase it. Substantively, the estimates in columns (5) and (8) suggest that after a far-right attack, *Affective polarization* decreases by 0.17 units on the 0-10 scale; and after an Islamic attack, it increases by 0.09 units on the 0-10 scale.

To provide better insights about the magnitude of the effects, in *SI Appendix* Section C.9 we present estimates for a binary version of the outcome variable that equals 1 for values above 5 (the median of the 'continuous' measure), and 0 otherwise. Using back-of-the-envelope calculations (and relying on the 2019 population figures), the estimates suggest that approximately 1.3 million more people exhibit low ( $\leq 5$ ) values of affective polarization after a far-right attack than before that attack, and approximately half a million more people exhibit high ( $> 5$ ) values of affective polarization after an Islamic attack than before that attack. These are not small effects considering that they refer to exposure to a *single* terrorist incident.

Columns (3), (6) and (9) of Table 1 investigate the sensitivity of the results to including the lagged value of the dependent variable, *Lagged affective polarization*, among the regressors. Despite the substantial reduction in sample sizes, the treatment effect of far-right (Islamic) attacks remains negative (positive) and statistically significant at the 1% level – though slightly smaller in magnitude, which is not surprising given that the lagged value absorbs a significant part of the variation in the outcome variable.

Table 1: Terrorism exposure and affective polarization: main results

	Affective Polarization								
	All attacks			Far-right Attacks			Islamic Attacks		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post-attack	0.007 (0.028)	-0.002 (0.028)	-0.001 (0.019)	-0.182*** (0.051)	-0.170*** (0.051)	-0.131*** (0.033)	0.113*** (0.033)	0.088*** (0.033)	0.063*** (0.023)
Lagged affective polarization			0.810*** (0.003)			0.795*** (0.004)			0.828*** (0.004)
LAD × wave FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Controls		✓	✓		✓	✓		✓	✓
No. of LADs	370	370	370	370	370	370	370	370	370
R-squared	0.044	0.059	0.667	0.051	0.063	0.647	0.036	0.059	0.694
Observations	64,378	61,750	45,491	33,175	31,831	25,081	31,203	29,919	20,410

Notes: Standard errors are clustered at the LAD level and reported in parentheses; \*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$ .

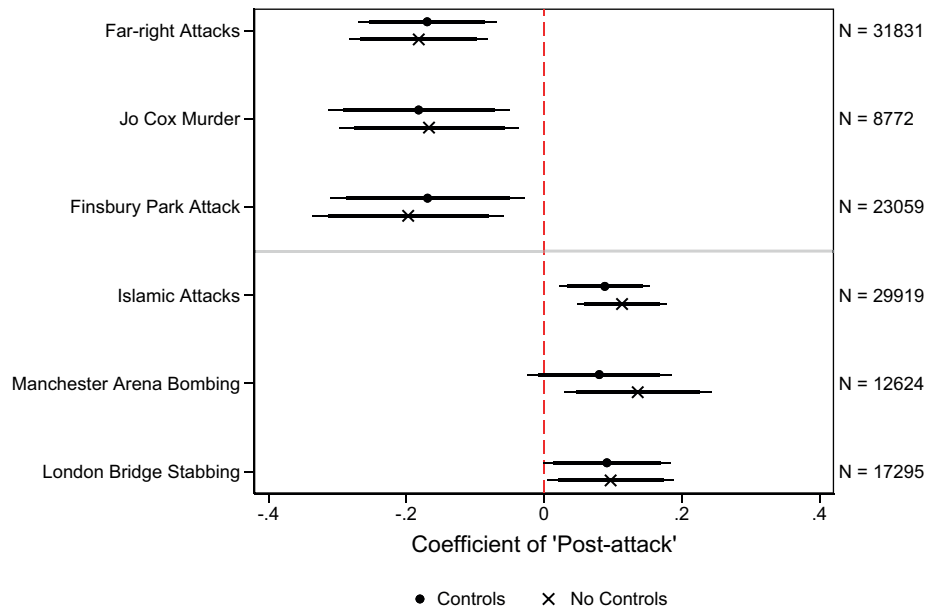
### 4.3 Results for individual attacks

In this section, we run separate regressions for each individual attack/wave. Figure 2 presents the corresponding treatment effects – along with their 90% and 95% confidence intervals – before and after adding the individual-level controls. Scanning down the figure, the consistent effect of attacks motivated by the same ideology is stark: both far-right attacks cause a negative shift in affective polarization, and both Islamic attacks cause a positive shift in affective polarization. In addition, the magnitude of the effect across attacks with the same perpetrator type is very similar, which suggests that the underlying terror ideology is what matters for a change in affective polarization, and not the severity of the attack (as measured, for example, by the number of victims). This is particularly evident when we compare the treatment effects for the Finsbury Park attack and the London Bridge stabbing: two London attacks with a similar number of victims but a different perpetrator type, causing the opposite changes in the affective reactions to parties.

### 4.4 Robustness tests

We probe the robustness of the main results in a number of auxiliary analyses, which are all reported in detail in *SI Appendix*. In sum, we conduct tests to address the possibility of sampling bias and misspecification error (Section C.1); check sensitivity to employing

Figure 2: Terrorism exposure and affective polarization: by attack



Notes: The dependent variable is *Affective Polarization*. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

multiparty measures of affective polarization (Section C.2); restrict the sample of respondents to exclude potential 'swing voters' (Section C.3); test for pre-existing trends to the left of the cut-off points (Section C.4); consider a narrower, 3-day bandwidth (Section C.5); use entropy weighting to optimize covariate balance between treatment and control units (Section C.6); re-estimate our baseline models for 11 different sub-samples, each time removing all individuals who reside in the same region (Section C.7); check robustness to alternative clustering of standard errors (Section C.8); and examine the treatment effects on a binary version of the outcome variable (Section C.9). Taken together, the results lend credibility to our causal claims and provide strong support to our key findings.

Finally, in Section C.10, we test for heterogeneity in the reported effects with respect to a number of socio-demographic characteristics. While there are no significant differences when we split respondents by gender, age and education, we do find that those who identify with minority religions (such as Islam, Hinduism and Sikhism) are more affectively polarized after Islamic attacks. This is probably due to the increased discrimination and

hatred faced by these individuals in the wake of attacks with religious motives, which can make rival parties' positions on immigration and religious tolerance more consequential for them.

## 4.5 Results by partisan group

As mentioned in Section 3.1, our measure of affective polarization (based on information for all respondents) accounts for the possibility that a citizen may exhibit affective reactions to parties without having a strong in-group identification (Garry, 2007). As such, it allows assessing citizens' perceptions of politics in a way that goes beyond traditional concepts of partisanship. Nevertheless, considering which partisan groups display the strongest reactions after far-right and Islamic attacks can help tease out what forces are more likely to be at work, and in which direction they operate.<sup>10</sup>

Table 2 shows the treatment effect on the like-dislike score for the Conservative Party (*Like Con.*) and the Labour Party (*Like Lab.*) when we focus on respondents who identify with one of the two parties.<sup>11</sup> It also shows the effects for those expressing identification with the Liberal Democrats (LD) or the Green Party: two parties at the center to center-left of the political spectrum that formed an electoral alliance in recent local and general elections. By looking at LD-Green supporters, we can assess how the third largest partisan group in Great Britain feels about the two dominant parties in the aftermath of far-right and Islamic attacks.<sup>12</sup> To ensure that the estimates are not subject to post-treatment bias, we create the three partisan groups based on people's responses in the BES wave *preceding* the attack.

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<sup>10</sup>As stressed by Wagner (2021), caution is needed when drawing inferences based on a restricted sample of self-declared partisans, as the party identification question is potentially subject to measurement error.

<sup>11</sup>To capture the respondent's self-declared partisanship, we rely on the BES item asking: "Generally speaking, do you think of yourself as Labour, Conservative, Liberal Democrat or what?".

<sup>12</sup>The number of respondents who identify with each one of the other (remaining) parties is too small to generate reliable inferences.

Table 2: Terrorism exposure and affective reactions: by partisan group

Panel A	Far-right Attacks					
	Like Con.	Like Lab.	Like Con.	Like Lab.	Like Con.	Like Lab.
	(1)	(2)	(3)	(4)	(5)	(6)
Post-attack	-0.103* (0.058)	0.172** (0.068)	0.077 (0.061)	-0.100 (0.064)	0.107 (0.134)	-0.100 (0.144)
Partisan identity	Con.	Con.	Lab.	Lab.	LD & Green	LD & Green
LAD × wave FEs	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓
No. of LADs	368	368	366	366	335	335
R-squared	0.127	0.149	0.117	0.130	0.243	0.251
Observations	8,837	8,821	8,898	8,920	2,965	2,963
Panel B	Islamic Attacks					
	Like Con.	Like Lab.	Like Con.	Like Lab.	Like Con.	Like Lab.
	(1)	(2)	(3)	(4)	(5)	(6)
Post-attack	0.026 (0.042)	-0.047 (0.040)	-0.032 (0.059)	0.018 (0.057)	0.011 (0.090)	0.218** (0.097)
Partisan identity	Con.	Con.	Lab.	Lab.	LD & Green	LD & Green
LAD × wave FEs	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓
No. of LADs	368	368	366	366	330	330
R-squared	0.132	0.179	0.166	0.140	0.273	0.277
Observations	9,404	9,397	7,878	7,879	3,237	3,231

Notes: Standard errors are clustered at the LAD level and reported in parentheses; \*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$ .

The results in panel A point to a decrease in ‘partisan prejudice’ in the wake of far-right attacks: both Conservative and Labour supporters report lower levels of affinity for their own party – and higher levels of affinity for the *other* party – once they are exposed to attacks perpetrated by far-right extremists. However, the estimates appear to be much stronger (both economically and statistically) for the former group, which indicates that the observed decrease in affective polarization after far-right attacks is mostly driven by Conservative people moving away from right-wing positions and ideas.

Turning to panel B, we can observe the opposite patterns for Islamic attacks: Conservative and Labour supporters exhibit stronger positive in-group feelings and stronger

negative out-group feelings in the post-attack period. These effects, while small in magnitude and not precisely estimated, can arguably contribute to the observed increase in affective polarization after Islamic attacks. Interestingly, this type of attacks also induces strong responses among LD-Green supporters, who become significantly more positive in their affect towards the Labour Party. We interpret this as evidence that Islamic attacks may push people who do not identify with either of the two dominant rival parties to move affectively closer to one of them – in this case, the party that is more proximate to their own party in terms of positions and rhetoric about immigration and civil liberties.

## 5 Further insights

In this section, we shed further light into the mechanisms underpinning the relationship between terrorism and affective polarization for the two attack typologies. It should be stressed that, due to data limitations and the nature of our research design, we cannot directly test all the possible mechanisms or prioritize among them. Thus, our aim here is rather to explore some of the underlying dynamics and provide evidence that explains, at least in part, why Islamic and far-right attacks induce different affective reactions.

### 5.1 Perceived terrorism salience

One explanation is based on the perceived salience of terrorism. Attacks motivated by radical interpretation of Islam are popularly labelled as ‘terrorism’, and are framed by politicians and the media as a major threat to national security and democratic values, whereas far-right attacks are usually portrayed as minor incidents committed by troubled, mentally ill ‘loners’ (Greenwald, 2016). The two attack types also differ in terms of their potential victims. As opposed to far-right attacks, whose targets are specific individuals or minority groups, Islamic attacks have the potential to target everyone, leading to higher perceptions of threat and insecurity among the general public. Because of these differences, debates

over polarizing issues become more intense in the aftermath of Islamic attacks, making rival parties' issue positions more consequential in the minds of citizens. On the other hand, following far-right attacks, such polarization-increasing dynamics are less likely to be activated.

To explore the terrorism-salience explanation, we use information on citizens' beliefs about the most important issue facing the country, and create a binary measure that equals 1 if an individual believes that terrorism is the most important national problem (and 0 otherwise). We then estimate Eq. 1 using this binary measure as the outcome variable and report the treatment effects separately for far-right attacks and Islamic attacks. As shown in Figure 3, the magnitude of the *Post-attack* estimate for Islamic attacks far outstrips that for far-right attacks. Specifically, after an Islamic attack, the probability of reporting terrorism as the most important issue increases by about 24 percentage points, and this is almost five times as large as in the case of far-right attacks.<sup>13</sup> These findings support the idea that Islamic attacks are seen by the general public as more threatening or detrimental for societal welfare. Hence, in the aftermath of such attacks, citizens' perception of rival political parties – with different attributes and policy positions – is expected to be more affectively polarized.

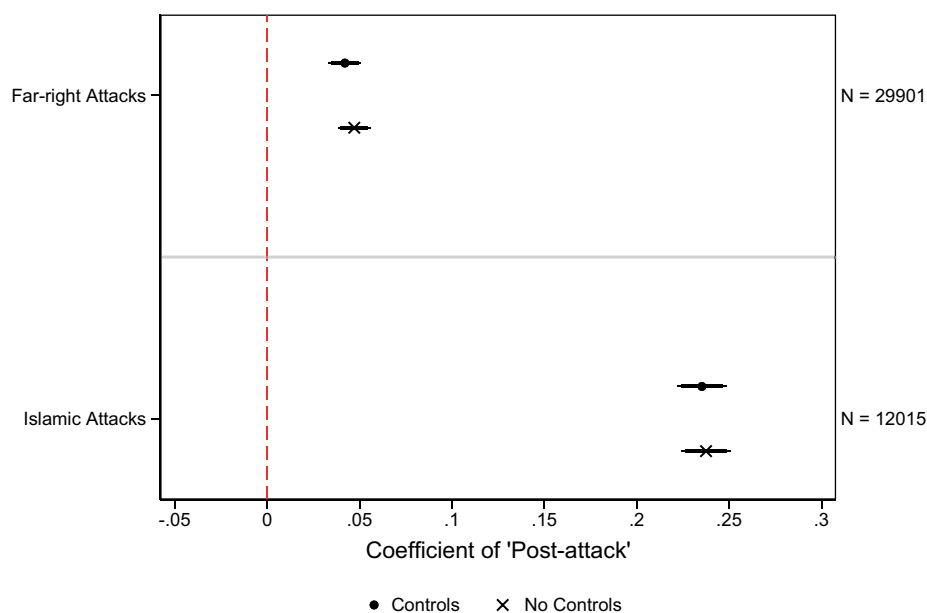
## 5.2 Support for immigration and far-right stances

The type of debate that terrorist attacks stimulate, and the resulting changes in attitudes about immigration, can affect the extent to which politics is seen as divided into opposing political camps and hence determine the level of affective polarization. Previous studies have documented that Islamic extremism increases nationalism, leads to higher levels of anti-immigrant sentiment among the native population, and triggers more hostility to-

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<sup>13</sup>In *SI Appendix* Section C.11, we replicate this analysis for four other popular issues facing the country: austerity, the economy, the environment and immigration. We observe that the post-attack change in the probability of reporting one of these issues as the most important national problem is either zero or marginally negative, and this applies to both far-right and Islamic attacks.

Figure 3: Terrorism as the most important issue

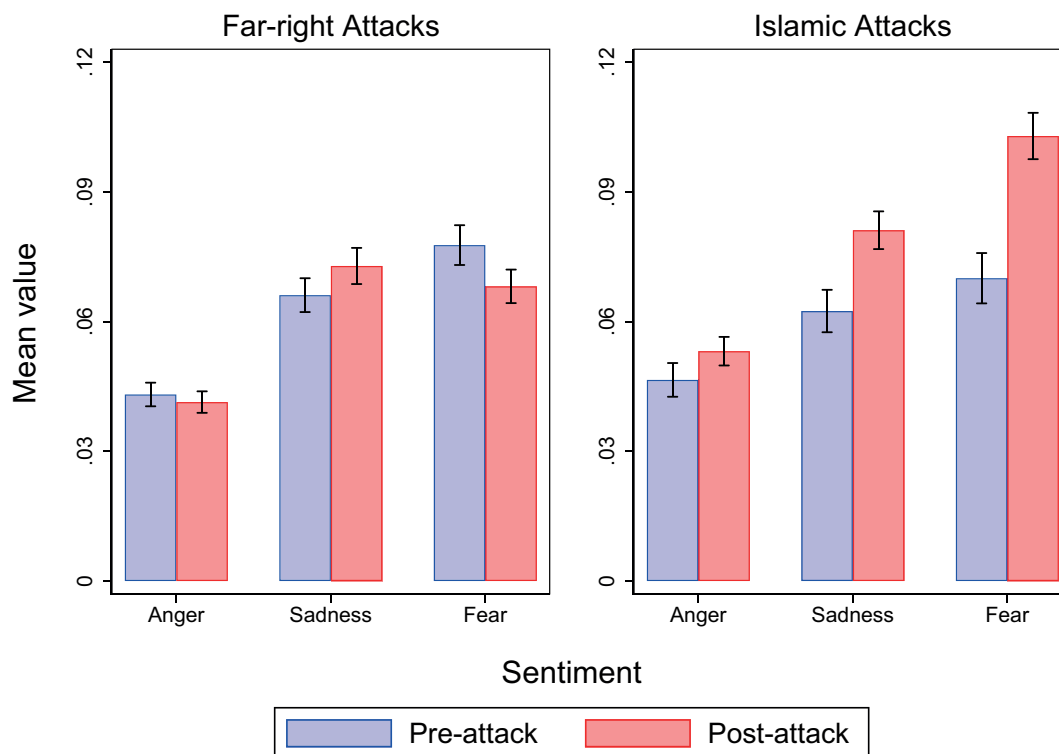


*Notes:* The dependent variable is a binary variable capturing whether the respondent believes that terrorism is the most important issue facing the country. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. The specifications for Islamic attacks are based on data for one attack, as there are no available data for the other attack. Thick (thin) lines signify the 90% (95%) confidence interval.

wards out-groups (see, e.g., [Legewie, 2013](#); [Ferrín, Mancosu and Cappiali, 2020](#)). This can also bring the issue of counter-terrorism methods – in particular border controls – to the fore. After a far-right attack, however, citizens may soften their feelings towards immigrants to avert any association with the ideology of the perpetrator, and rally behind shared values of acceptance and inclusivity. This is because the use of violence can lead the general public to view the political ideas of the terrorist actors as unreasonable and increase support for the perceived victims of violence; i.e., ethnic minorities and out-groups ([Muñoz and Anduiza, 2019](#)).

To test how the identity of the perpetrator affects immigration positions, we first use Twitter data and analyze the emotional content of immigration-related tweets posted around the date of the four sampled attacks. Figure 4 compares the pre- and post-attack average values of three negative emotions about immigration (anger, sadness and fear), calculated using the share of words assigned to a given emotion across all lexicon-identified

Figure 4: Emotional scores for tweets on immigration: anger, sadness, fear



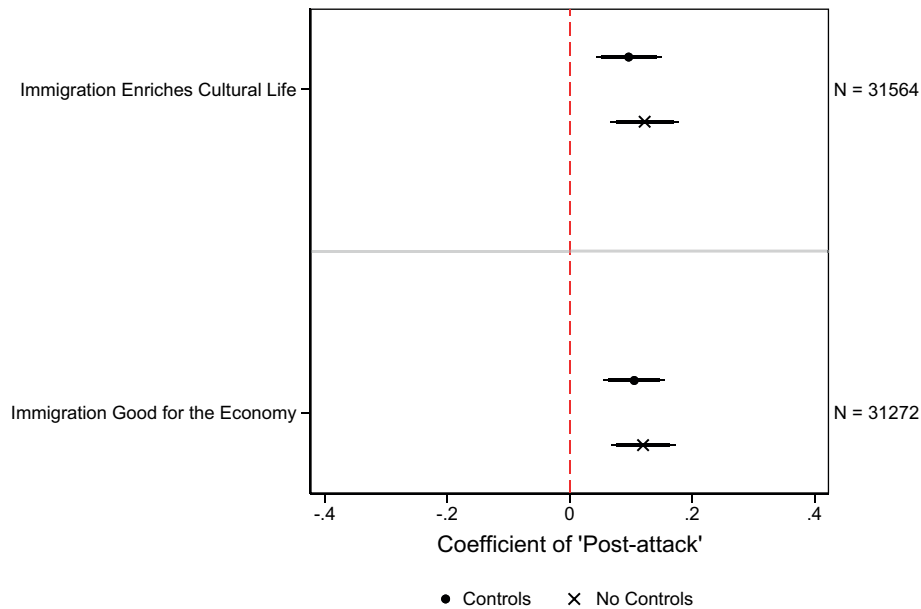
Notes: Far-right attacks: N=6,879 from a sample of 2,751,913 tweets. Islamic attacks: N=3,834 from a sample of 2,063,440 tweets. Black bars signify the 90% confidence interval.

words included in the immigration-related tweets.<sup>14</sup> As can be seen quite clearly, there is a notable increase in negative emotions associated with immigration in the aftermath of the two Islamic attacks, with growing feelings of fear and sadness, and to a lesser extent anger. On the contrary, after the two far-right attacks, fear subsides and there is only a small increase in sadness.

As a second step, we return to BES and use information on the respondents' immigration attitudes. Specifically, we explore their answers on whether immigration: (i) enriches or undermines cultural life; (ii) is good or bad for the economy – both measured on a 1-7 scale, with higher values reflecting more positive positions on immigration. The limita-

<sup>14</sup>This analysis is based on 10.7 thousand immigration-related tweets, which were posted by geo-located UK users 3 days before and 3 days after each of the four sampled attacks. To approach the emotional content of text analytically, we use the NRC Emotion Lexicon tool. More details about the Twitter data collection and coding are presented in *SI Appendix* Section D.

Figure 5: Far-right terrorism exposure and immigration attitudes

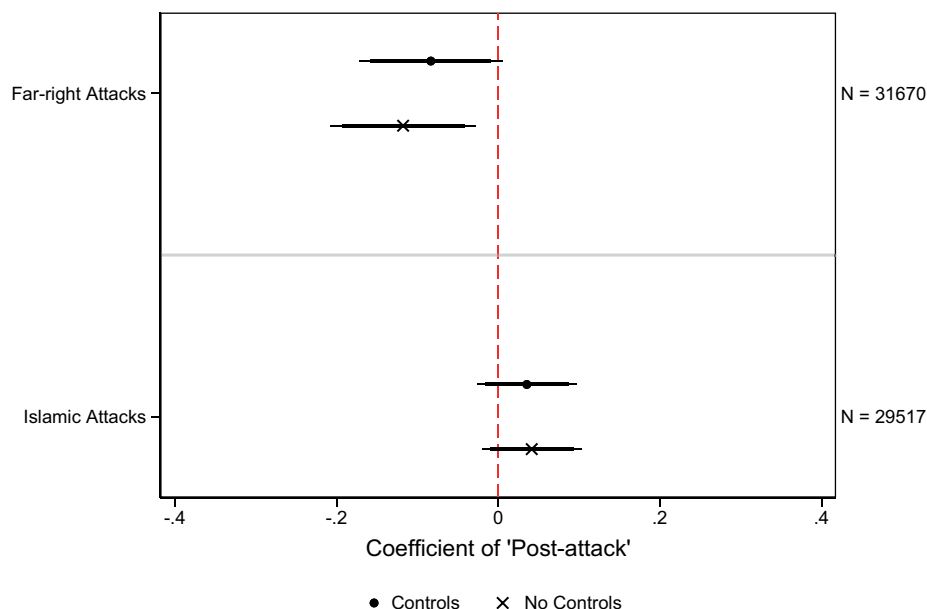


Notes: The dependent variable is listed on the vertical axis. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

tion of these questions is that they were not included in waves 12 and 18, and thus cannot be used for the two Islamic attacks. Nevertheless, examining the treatment effect of far-right terrorism on immigration attitudes can provide further insights about whether this type of terrorism can indeed increase the degree of social tolerance towards foreign-borns. Figure 5 reports the corresponding treatment effects, and provides evidence in line with the above: exposure to terrorism perpetrated by far-right extremists sways the population towards a more pro-immigration stance.

Related to changes in immigration preferences, terrorism can shape the affective reactions to parties by changing support for (more general) far-right positions – many of which are shared by traditional conservative parties, such as concerns about the protection of national identities. Right-leaning parties exploit the occurrence of Islamic attacks using the ‘natives’ versus ‘non-natives’ rhetoric and this surge can influence the extent to which people feel more warmly or coldly towards parties at the two sides of the political debate. However, after far-right attacks, parties supporting far-right ideas are forced

Figure 6: Terrorism exposure and affect towards the 'far-right'



Notes: All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

onto the defensive, and politicians of all political colours come together to condemn the perpetrators. This, in turn, can lower people's interparty hostility.

To explore the far-right-affect explanation, we estimate Eq. 1 using the like-dislike score for UKIP (0-10 scale). Figure 6 shows the corresponding results while distinguishing between far-right and Islamic attacks. The consistent opposite pattern of effects across attacks with different underlying ideology stands out once again. After far-right attacks, citizens express more negative feelings about the far-right party, whereas, after Islamic attacks, there is a small (and less precisely estimated) increase in the party's favorability rating.

### 5.3 Other dynamics

In *SI Appendix* Section C.12, we test whether the effects reported in the previous section can be attributed to a specific group of self-declared partisans. In line with our previous findings, we obtain evidence that the pro-immigration shift after far-right attacks is mostly

driven by individuals who identify with the Conservative Party. Interestingly, we also find that Conservative partisans are responsible for the small increase in UKIP's favorability rating in the aftermath of Islamic attacks.

Finally, in *SI Appendix* Section C.13, we explore another possible mechanism: terrorism leading to higher affinity levels for the incumbent Prime Minister (PM) (Holman, Merolla and Zechmeister, 2022). Overall, this mechanism does not find support in the BES data and cannot explain the conditionality of the effects upon the attack typology. However, one has to be very cautious in interpreting this finding as absence of a rally-around-the-flag dynamic, since the effects may also reflect idiosyncratic responses to the handling of the attacks by each one of the sitting PMs, and be confounded by the fact that all sampled attacks occurred under a Conservative government.

## 6 Conclusions

We investigate whether and how exposure to terrorism can contribute to a more (or less) polarized pattern of affect towards political parties. Terrorist incidents prompt death-related thoughts, which intensify pre-existing cultural worldviews and partisan leanings. However, they can also decrease polarization by fostering cohesion and tolerance and by reducing public endorsement for divisive perspectives. We explore the case of Great Britain, where terrorism is a particularly salient issue in the minds of constituents. We find that terrorism causes changes in affective reactions to parties, but its impact is mediated by the type of perpetrator: whereas Islamic attacks contribute to increasing affective polarization, far-right attacks tend to depolarize the public. We also provide evidence that these divergent results can partly be explained by the perceived salience of the incident and different attitudes towards contentious and polarizing issues, like citizens' positions on immigration and the 'far-right'. Notably, the positive effect of Islamic attacks on affective polarization appears to be less pronounced than the negative effect of far-right attacks.

This difference may be attributed to the fact that, in the case of Islamic attacks, factors that mitigate polarization are at play, partially counteracting the overall positive effect. Conversely, in the case of far-right attacks, the factors that would typically fuel polarization are not activated, resulting in a larger overall negative effect of those attacks on polarization.

There are three notable limitations in our study, leaving key areas for further investigation. First, we only examine the short-term effects of terrorism on affective polarization. It is unclear whether these effects will persist over time or fade back to pre-attack levels. Large-scale attacks may lead to a long-lasting shift in risk perceptions and negative emotions (Bove, Efthymoulou and Pickard, 2024), or attitudes may stabilize after a series of attacks as individuals become less susceptible to further shocks (Nussio, 2020). Studying this long-term trend is empirically challenging, given the many other events or factors that can shape the level of affect towards parties. Second, we only consider four salient attacks in one country. It would be interesting to investigate the effect of less sensational attacks (which are more common) and test whether the results persist in other countries with less polarized party systems. Extending the analysis to include more attacks and countries – and using a similar quasi-experimental approach – could enable scholars to ensure both internal and external validity. Third, we explore a number of potential explanations for our findings, but the list is not exhaustive and additional competing mechanisms are likely to be at play. Future research, based on larger sample sizes, should also examine in more detail how individuals with different socio-demographic characteristics and partisan affiliations are affected by each mechanism. These are efforts worth making if one were to understand the complex and far-reaching consequences of terrorism.

Our study suggests that Islamist extremists can potentially achieve their goal of sowing division among the population, while far-right extremists do not produce a similar outcome, but quite the opposite. The government should thus not adopt a “one-size-fits-all” approach as a response to terrorism. Different types of terrorist incidents seem to influence public opinion and societal well-being in distinctive ways, and this can have im-

portant implications for the language used in communications by policymakers and the media following such attacks.

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# Terrorism, perpetrators and polarization: Evidence from natural experiments

## Supplementary Information (SI) Appendix

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## A Background Material

In this section, we present background information about the two far-right and the two Islamic terrorist attacks that we use in our analysis.

### A.1 MP Jo Cox murder – Far-right extremism – June 16, 2016

Labour Party MP Jo Cox was murdered on the streets of her constituency of Batley and Spen in Yorkshire, a week before the Brexit referendum, on June 16, 2016. The perpetrator was Thomas Mair, a 53-years-old white supremacist, whose violent hatred extended to white people he deemed “collaborators”. Although Mair’s obsession with Nazism, white supremacy and apartheid-era South Africa, as well as his proximity to extreme-right movements was widely documented,<sup>1</sup> Jo Cox’s murder was not immediately identified as an episode of terrorism (see, e.g., Figure B.2). Still, the media latterly identified the perpetrator as a “far-right terrorist”, and, although Mair was trialed for murder, the persecutors claimed that his crimes were “nothing less than acts of terrorism”, while the judge noted, in the motivations accompanying Mair’s life sentence, that his “inspiration was not love of country but admiration for Nazism”.<sup>2</sup>

The British public were deeply shocked: Union Flags on British public buildings, including the Palace of Westminster, were flown at half mast, and the Brexit referendum campaign was suspended by both sides. Bi-partisan condolences and tributes to Cox immediately came from prominent UK leaders, including the Conservative Prime Minister, David Cameron, the Labour Party leader, Jeremy Corbyn, and MEP Nigel Farage, leader of the UK Independence Party, and prominent Leave.EU campaigner.<sup>3</sup> Farage came under the spotlight in the aftermath to the attack, as Cox’s murderer was heard shouting, on the day of the assassination, “Britain First”, the name of a far-right organization aligned with Farage’s party and policies. This spurred some commentators and scholars to draw parallels between the aggressive rhetoric oft-adopted by the Leave campaign, and the motivations behind the terrorist attack (Jones, 2019).<sup>4</sup> Farage rebutted these accusations, dismissing the murder as being down to “one deranged, dangerous individual”.<sup>5</sup> Yet, leaders

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<sup>1</sup>Available online [here](#), [here](#) and [here](#).

<sup>2</sup>Available [online](#). A search on NexisUni utilising the keywords (“terrorist” OR “terrorism”) AND “Jo Cox” returned 570 results in the month following the attack.

<sup>3</sup>Available [online](#).

<sup>4</sup>For more information on the salience of terrorism in the Brexit campaign, see [Bove, Efthyvoulou and Pickard \(2022\)](#).

<sup>5</sup>Available [online](#).

of far-right groups – including Paul Golding, the leader of Britain First – rushed, at least initially, to distance themselves from the attack,<sup>6</sup> while extreme-right activists' online reactions ranged from blaming Mair's mental-health issues, rather than ideological drive, to going as far as insinuating the "truthfulness" of the attack.<sup>7</sup>

## A.2 Finsbury Park attack – Far-right extremism – June 19, 2017

The second far-right attack in our sample took place on June 19, 2017, and involved a 48-year-old man, Darren Osborne, who drove a van into a crowd of Muslims near the Finsbury Park Mosque, in north London, causing one death and injuring ten people. Osborne was apparently motivated by his anger for the Islamic terrorist attacks in London and Manchester in 2017, and by a child grooming scandal involving men of Asian origin, taking place in Rochdale (UK). The incident was immediately dealt with as a terrorist attack by politicians, counter-terrorism police, as well as in the media (see Figure B.2).

Most of the newspapers' front pages on the day following the attack tended to focus more on the perpetrator, rather than on the victims, although with some notable exceptions (e.g., the Guardian and the Independent). Also important is the fact that the affiliation to far-right groups appears to be secondary in the reporting, in contrast with the patterns generally occurring after Islamic attacks. Yet, media coverage for the attack was rather high, with 1,152 results on NexisUni in the month after the attack.<sup>8</sup> The entire political spectrum openly condemned the action – PM Theresa May praised London's multiculturalism and promised a stronger effort against Islamophobia – as did religious leaders from different creeds, while Prince Charles visited the Finsbury Park Mosque to meet the community leaders.<sup>9</sup>

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<sup>6</sup>Available [online](#).

<sup>7</sup>Available [online](#).

<sup>8</sup>Keywords: ("terrorist" OR "terrorism") AND "Finsbury park".

<sup>9</sup>Available online [here](#), [here](#) and [here](#).

### A.3 Manchester Arena bombing – Islamic extremism – May 22, 2017

At 22:37 on 22 May 2017, Salman Ramadan Abedi, a 22-year old Mancunian man of Libyan descent, detonated a home-made bomb inside the foyer of the Manchester Arena, as people were leaving a concert by Ariana Grande. Twenty-three attendees – six of them children – died in the explosion,<sup>10</sup> while, according to the independent public inquiry that followed the attack, 1,017 were injured to some degree, with 112 requiring hospitalisation.<sup>11</sup> The Manchester Arena attack was the deadliest episode of terrorism in Britain since the London bombings of July 7, 2005.<sup>12</sup> Following the attack, the government immediately raised the terrorism threat level to “critical”, the highest in a scale of five, before reverting to the pre-existing level – “severe” – five days later.<sup>13</sup>

When the government updated its counter-terrorism strategy in 2018, it pointed at the bombing as part of the motivations leading to the repeal of the pre-existing policy.<sup>14</sup> In 2022, testimonies from the MI5 in the Manchester Arena Inquiry, reported in fact that the MI5 had sufficient intelligence to open an investigation against the perpetrator, Salman Abedi, a month before the attack and treat him as a threat to national security. However, it had failed to do so because the agency was “struggling to cope” with increasing workload, which precluded careful consideration of the case, hence the sharing of data with counter-terrorism police and other agencies.<sup>15</sup>

British newspapers reported widely on the attack in its immediate aftermath with graphic, emotional coverage. The Daily Mail shared the “horrifying videos” from the Arena, as “terrified concert-goers flee for their lives”,<sup>16</sup> while several newspapers emphasised the presence of children among the victims, as prime minister Theresa May condemned, in her statement, how the attacker saw a “room packed with young children as an opportunity for carnage”.<sup>17</sup> Data from NexisUni confirms the relevance of the Manchester Arena bombing in the public debate: it is indeed the most widely covered attack in the 2014-2019 period, with over 11,900 results for the month after the event.<sup>18</sup>

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<sup>10</sup> Available [online](#).

<sup>11</sup> Available [online](#).

<sup>12</sup> Available [online](#).

<sup>13</sup> Available [online](#).

<sup>14</sup> Available [online](#).

<sup>15</sup> Available [online](#).

<sup>16</sup> Available [online](#).

<sup>17</sup> Available [online](#).

<sup>18</sup> Keywords: (“terrorist” OR “terrorism”) AND “Manchester” AND “arena”.

#### A.4 London Bridge stabbing – Islamic extremism – November 29, 2019

On 29 November 2019, Usman Khan, a former British prisoner of Pakistani descent, convicted of terrorist offences, stabbed five people inside and outside Fishmongers' Hall, a building adjacent to London Bridge. Two of the victims died from their stab wounds.<sup>19</sup> Having been released on license just one year before,<sup>20</sup> Khan, on the day of the attack, was attending a conference on offender rehabilitation.<sup>21</sup> After initially threatening to detonate what turned out to be a fake suicide vest, he began stabbing people in the building.<sup>22</sup> Khan then ran outside and stabbed pedestrians on London Bridge, where a civilian eventually managed to block him, until the police arrived and shot him dead.<sup>23</sup>

The Islamic State of Iraq and the Levant (ISIL) claimed – without evidence – that Khan was one of its followers.<sup>24</sup> As part of the inquest that followed the attack, considering Khan's early release, the Independent Reviewer of Terrorism Legislation, Jonathan Hall QC, recommended in 2021 that those who participate in the planning or preparation of terrorist attacks are given automatic life sentences.<sup>25</sup> While the investigators concluded that the police had lawfully killed Khan,<sup>26</sup> a separate inquiry found that: (i) the attacker had not been sufficiently monitored; (ii) communication and data sharing between agencies was insufficient; and; (iii) the security planning at the event had been sub-par. These factors, the jury concluded, all contributed to the death of the two victims.<sup>27</sup>

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<sup>19</sup> Available [online](#).

<sup>20</sup> *Ibid.*

<sup>21</sup> Available [online](#).

<sup>22</sup> *Ibid.*

<sup>23</sup> Available [online](#).

<sup>24</sup> Available [online](#).

<sup>25</sup> Available [online](#).

<sup>26</sup> Available [online](#).

<sup>27</sup> Available [online](#).

## B Descriptives

- Figure B.1 presents a map with the location and key characteristics of the terrorist attacks used in the analysis.
- Figure B.2 provides examples of UK national newspaper front pages from the day after each far-right attack in the analysis. The top row is for the MP Jo Cox murder and the bottom row is for the Finsbury Park attack.
- Figure B.3 provides examples of UK national newspaper front pages from the day after each Islamic attack in the analysis. The top row is for the Manchester Arena bombing and the bottom row is for the London Bridge stabbing.
- Table B.1 presents summary statistics and definitions for all outcome variables used in the main analysis.
- Table B.2 presents summary statistics and definitions for all control variables used in the main analysis and included in vector  $\mathbf{X}_{idw}$ .
- Table B.3 performs balancing tests in observed characteristics across treatment and control units. This shows that there are differences in the mean of some covariates (e.g., age and employment status) across the two groups, but the magnitude of the difference is very small.

Figure B.1: Location and key characteristics of the four attacks



Notes: The size of each point reflects the total number of people killed or wounded as a result of that attack.

Figure B.2: Newspaper front pages from the day after far-right attacks

(a) MP Jo Cox murder



(b) MP Jo Cox murder



(c) Finsbury Park attack



(d) Finsbury Park attack



Figure B.3: Newspaper front pages from the day after Islamic attacks

(a) Manchester Arena bombing (b) Manchester Arena bombing



(c) London Bridge stabbing (d) London Bridge stabbing



Table B.1: Summary statistics: outcome variables

	Far-right attacks sample					Islamic attacks sample					Definition
	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	
Affective Polarization	5.05	3.17	0.00	10.00	31,831	5.13	3.14	0.00	10.00	29,919	The absolute difference (distance) between the like-dislike scores for the Conservative Party and the Labour Party.
Like Conservatives	3.99	3.35	0.00	10.00	31,920	4.34	3.46	0.00	10.00	30,021	The respondent's answer to the question "How much do you like or dislike each of the following parties?: Conservatives", where answers range from 0 "Strongly dislike" to value 10 "Strongly like".
Like Labour	4.70	3.30	0.00	10.00	31,933	4.05	3.25	0.00	10.00	29,996	The respondent's answer to the question "How much do you like or dislike each of the following parties?: Labour", where answers range from 0 "Strongly dislike" to value 10 "Strongly like".
Terrorism Most Important Issue	0.09	0.29	0.00	1.00	29,901	0.14	0.35	0.00	1.00	12,015	=1 if the respondent answers that terrorism is the most important issue facing the country, and 0 otherwise
Immigration Good for the Economy	4.26	1.83	1.00	7.00	31,272	–	–	–	–	–	The respondent's answer to the question "Do you think immigration is good or bad for Britain's economy?", where answers range from value 1 "Bad for the economy" to value 7 "Good for the economy".
Immigration Enriches Cultural Life	3.85	2.04	1.00	7.00	31,564	–	–	–	–	–	The respondent's answer to the question "Do you think that immigration undermines or enriches Britain's cultural life?", where answers range from value 1 "Undermines cultural life" to value 7 "Enriches cultural life".
Like UKIP	2.61	3.14	0.00	10.00	31,670	2.06	2.74	0.00	10.00	29,517	The respondent's answer to the question "How much do you like or dislike each of the following parties?: UKIP", where answers range from 0 "Strongly dislike" to value 10 "Strongly like".

Table B.2: Summary statistics: control variables

	Far-right attacks sample					Islamic attacks sample					Definition
	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	
Age	52.78	15.92	16.00	93.00	31,831	54.63	15.71	18.00	97.00	29,919	The age of the respondent
Age sqr.	3038.91	1608.48	256.00	8649.00	31,831	3231.36	1635.01	324.00	9409.00	29,919	The age of the respondent squared
Female	0.52	0.50	0.00	1.00	31,831	0.51	0.50	0.00	1.00	29,919	=1 if the respondent is female, 0 if the respondent is male
Employed	0.51	0.50	0.00	1.00	31,831	0.50	0.50	0.00	1.00	29,919	=1 if the respondent is in full or part-time employment, 0 otherwise
Student/Other	0.06	0.24	0.00	1.00	31,831	0.05	0.21	0.00	1.00	29,919	=1 if the respondent is a student or has 'other' labour market status, 0 otherwise
Retired	0.32	0.47	0.00	1.00	31,831	0.35	0.48	0.00	1.00	29,919	=1 if the respondent is retired, 0 otherwise
Unemployed/Not working	0.10	0.31	0.00	1.00	31,831	0.10	0.29	0.00	1.00	29,919	=1 if the respondent is unemployed or not currently working, 0 otherwise
Educ.: Below GCSE	0.17	0.38	0.00	1.00	31,831	0.17	0.37	0.00	1.00	29,919	=1 if the respondent's highest level of education is below GCSEs, 0 otherwise
Educ.: GCSE/A-level/Diploma	0.40	0.49	0.00	1.00	31,831	0.38	0.49	0.00	1.00	29,919	=1 if the respondent's highest level of education is either GCSE, A-level or a Diploma, 0 otherwise
Educ.: Bachelor or higher	0.43	0.50	0.00	1.00	31,831	0.45	0.50	0.00	1.00	29,919	=1 if the respondent's highest level of education is a bachelor degree or above, 0 otherwise
Single	0.17	0.38	0.00	1.00	31,831	0.17	0.37	0.00	1.00	29,919	=1 if the respondent is single, 0 otherwise
In a relationship	0.69	0.46	0.00	1.00	31,831	0.69	0.46	0.00	1.00	29,919	=1 if the respondents is in any type of relationship, 0 otherwise
Separated/Divorced/Widowed	0.14	0.34	0.00	1.00	31,831	0.14	0.35	0.00	1.00	29,919	=1 if the respondents is separated, divorced or widowed, 0 otherwise
1 or more child	0.20	0.40	0.00	1.00	31,831	0.19	0.39	0.00	1.00	29,919	=1 if the respondent has 1 or more children, 0 otherwise
White British	0.93	0.26	0.00	1.00	31,831	0.92	0.27	0.00	1.00	29,919	=1 if the respondent's ethnicity is white British, 0 otherwise
No religion	0.48	0.50	0.00	1.00	31,831	0.49	0.50	0.00	1.00	29,919	=1 if the respondent has no religious affiliation, 0 otherwise
Christianity	0.45	0.50	0.00	1.00	31,831	0.44	0.50	0.00	1.00	29,919	=1 if the respondent is Christian, 0 otherwise
Islam	0.01	0.08	0.00	1.00	31,831	0.01	0.09	0.00	1.00	29,919	=1 if the respondent is Muslim, 0 otherwise
Other religion	0.06	0.24	0.00	1.00	31,831	0.06	0.24	0.00	1.00	29,919	=1 if the respondent has a different reported religion, 0 otherwise

Table B.3: Covariate balance

	Far-right attacks sample				Islamic attacks sample			
	Mean (control)	Mean (treatment)	Diff.	<i>p</i> -value	Mean (control)	Mean (treatment)	Diff.	<i>p</i> -value
Age	52.98	51.99	0.99	0.00	54.30	54.97	-0.67	0.00
Age sqr.	3055.29	2973.56	81.73	0.00	3197.23	3265.86	-68.63	0.00
Female	0.52	0.52	-0.00	0.78	0.51	0.51	0.01	0.29
Employed	0.51	0.53	-0.02	0.03	0.50	0.50	-0.00	0.99
Student/Other	0.06	0.07	-0.01	0.01	0.05	0.05	0.00	0.20
Retired	0.32	0.31	0.02	0.01	0.35	0.36	-0.01	0.08
Unemployed/Not working	0.11	0.10	0.01	0.05	0.10	0.09	0.01	0.05
Educ.: Below GCSE	0.17	0.17	0.00	0.54	0.17	0.16	0.00	0.34
Educ.: GCSE/A-level/Diploma	0.39	0.40	-0.01	0.22	0.38	0.39	-0.01	0.23
Educ.: Bachelor or higher	0.43	0.43	0.01	0.46	0.45	0.45	0.00	0.64
Single	0.17	0.17	-0.00	0.89	0.17	0.17	-0.00	0.86
In a relationship	0.69	0.70	-0.01	0.31	0.69	0.69	0.00	0.59
Separated/Divorced/Widowed	0.14	0.13	0.01	0.13	0.14	0.14	-0.00	0.60
1 or more child	0.19	0.21	-0.01	0.02	0.19	0.19	0.01	0.24
White British	0.92	0.93	-0.00	0.83	0.92	0.92	0.00	0.31
No religion	0.48	0.47	0.01	0.21	0.50	0.49	0.01	0.12
Christianity	0.45	0.46	-0.01	0.18	0.44	0.44	0.00	0.97
Islam	0.01	0.01	0.00	0.39	0.01	0.01	-0.00	0.04
Other religion	0.06	0.06	-0.00	0.92	0.06	0.06	-0.01	0.01
Observations	25,452	6,379	31,831		15,039	14,880	29,919	

*Notes:* This table shows the mean of covariates across treatment and control units, together with conventional *t*-tests for differences in means across the two groups, for the far-right attacks sample and the Islamic attacks sample.

## C Robustness Tests and Further Insights

### C.1 Testing for sampling bias and misspecification error

Table 1 in our main analysis shows the results when we estimate Eq. (1) separately for far-right attacks and Islamic attacks, based on three different specifications: (i) excluding the vector of control variables; (ii) including the vector of control variables; (iii) including both the vector of control variables and the lagged value of the outcome variable.

One might be concerned about the comparability of estimates across the three specifications due to the different samples sizes and thus the possibility of accounting for respondents with different characteristics. Another concern comes from the fact that we test for heterogeneous effects across the two attack typologies using separate regressions, which might increase the probability of type I error (falsely rejecting the null hypothesis of no heterogeneity). To address these issues, we perform two exercises. First, we run the same regression set-up as in Table 1 using a constant sample. This is based on the most restricted specification; i.e., specification (iii) above. Second we estimate an extended version of Eq. (1) that includes an interaction between *Post-attack* and a variable capturing the two Islamic attacks, and then calculate the marginal effects at values 0 and 1 of the interacted variable (corresponding to far-right attacks and Islamic attacks, respectively). The results obtained from these two exercises are similar to those reported in Table 1, and do not change our inferences – see Tables C.1a and C.1b.

Table C.1a: Terrorism exposure and affective polarization: using a constant sample

	Affective Polarization								
	All Attacks			Far-right Attacks			Islamic Attacks		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post-attack	-0.026 (0.035)	-0.032 (0.034)	-0.001 (0.019)	-0.263*** (0.058)	-0.259*** (0.057)	-0.131*** (0.033)	0.101** (0.042)	0.087** (0.041)	0.063*** (0.023)
Lagged affective polarization			0.810*** (0.003)			0.795*** (0.004)			0.828*** (0.004)
LAD × wave FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Controls		✓	✓		✓	✓		✓	✓
No. of LADs	370	370	370	370	370	370	370	370	370
R-squared	0.052	0.066	0.667	0.056	0.066	0.647	0.049	0.070	0.694
Observations	45,491	45,491	45,491	25,081	25,081	25,081	20,410	20,410	20,410

Notes: Standard errors are clustered at the LAD level and reported in parentheses; \*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$ .

Table C.1b: Terrorism exposure and affective polarization:  
using an interaction term to test heterogeneity

	Affective Polarization		
	(1)	(2)	(3)
Post-attack	-0.182*** (0.051)	-0.167*** (0.051)	-0.128*** (0.033)
Post-attack × Islamic attacks	0.295*** (0.061)	0.257*** (0.061)	0.194*** (0.040)
Lagged affective polarization			0.810*** (0.003)
<i>Marginal effects</i>			
Post-attack for far-right attacks	-0.182*** (0.051)	-0.167*** (0.051)	-0.128*** (0.033)
Post-attack for Islamic attacks	0.113*** (0.033)	0.090*** (0.033)	0.067*** (0.023)
LAD × wave FEs	✓	✓	✓
Controls		✓	✓
No. of LADs	370	370	370
R-squared	0.044	0.060	0.667
Observations	64,378	61,750	45,491

Notes: Standard errors are clustered at the LAD level and reported in parentheses; \*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$ .

## C.2 Using multiparty measures of affective polarization

In our main analysis, we capture affective polarization using the distance between the like-dislike scores for the two (largest) mainstream political parties in the UK: Conservatives and Labour. In this section, we assess the robustness of our results to using multiparty measures of affective polarization.

First, we consider the spread of like-dislike scores for each respondent, while accounting for all parties and their size. Following [Wagner \(2021\)](#), we calculate this measure using the weighted average party affect difference compared to each respondent's weighted average party affect. More precisely, the weighted affective polarization equation for individual  $i$  is:

$$\text{Weighted affective polarization}_i = \sqrt{\sum_{p=1}^P v_p (\text{like}_{ip} - \overline{\text{like}}_i)^2} \quad (1)$$

where  $v_p$  is the country-specific<sup>28</sup> vote share of each party in the most recent general election and  $\text{like}_{ip}$  is the like-dislike score assigned to each party  $p$  by individual  $i$ . The mean affect itself is weighted by party size and is calculated by:

$$\overline{\text{like}}_i = \sum_{p=1}^P (v_p \times \text{like}_{ip}) \quad (2)$$

It should be stressed that this measure is highly correlated with our baseline (two-party, unweighted) measure, with correlation coefficient equal to 0.51 ( $p$ -value < 0.01). This is also evidenced by [Boxell, Gentzkow and Shapiro \(2024\)](#) who show that the two measures of affective polarization (for Great Britain) follow an identical trend over the period 1980–2019 (see Figure C.2a).

Second, we consider polarization in partisan affect between two large blocks of parties, as in [Ward and Tavits \(2019\)](#). Specifically, we calculate this measure using the distance between the like-dislike scores for three parties that belong to the right block (Conservative Party, UK Independence Party, and Brexit Party) and three parties that belong to the center-left block (Labour Party, Liberal Democrats, and Green Party). As pointed in Section 3.1, splitting the UK parties into two distinct left-right camps or coalitions is often quite challenging; for instance, while the Liberal Democrat voters placed themselves

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<sup>28</sup>We use the party vote shares in the respondent's country of residence (England, Scotland or Wales).

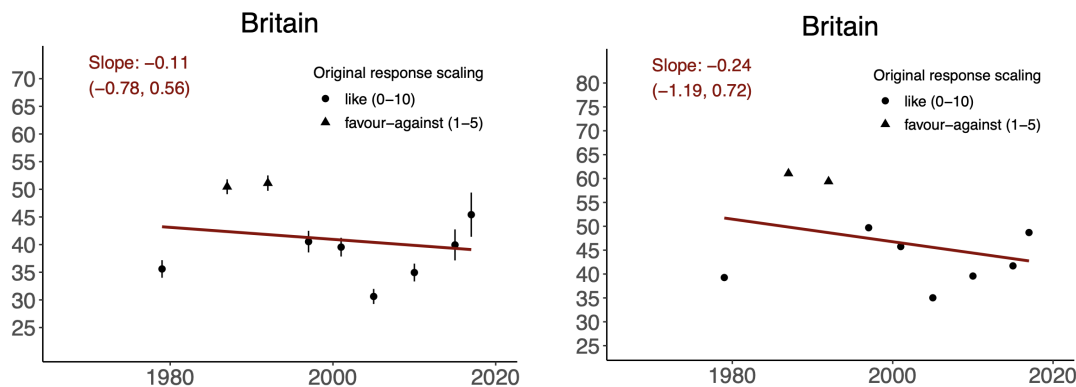
ideologically closer to the Labour Party (compared to the Conservative Party) in the 2010 general election, the Liberal Democrats went into coalition with the Conservatives after this election.<sup>29</sup>

In Figures C.2b and C.2c, we re-estimate our baseline model using the two aforementioned (multiparty) measures. Given the presence of large country-specific parties in Scotland and Wales (like the Scottish National Party and Plaid Cymru, the Party of Wales), we also check the sensitivity of our estimates when we restrict the sample to include only the respondents who reside in England. Overall, our inferences do not change: once again, we can see that terrorism causes significant changes in affective polarization and that the direction of the effect depends on the attack typology (in line with *Hypotheses 2a* and *2b*).

Figure C.2a: Trends in affective polarization for Great Britain

(a) Weighted measure

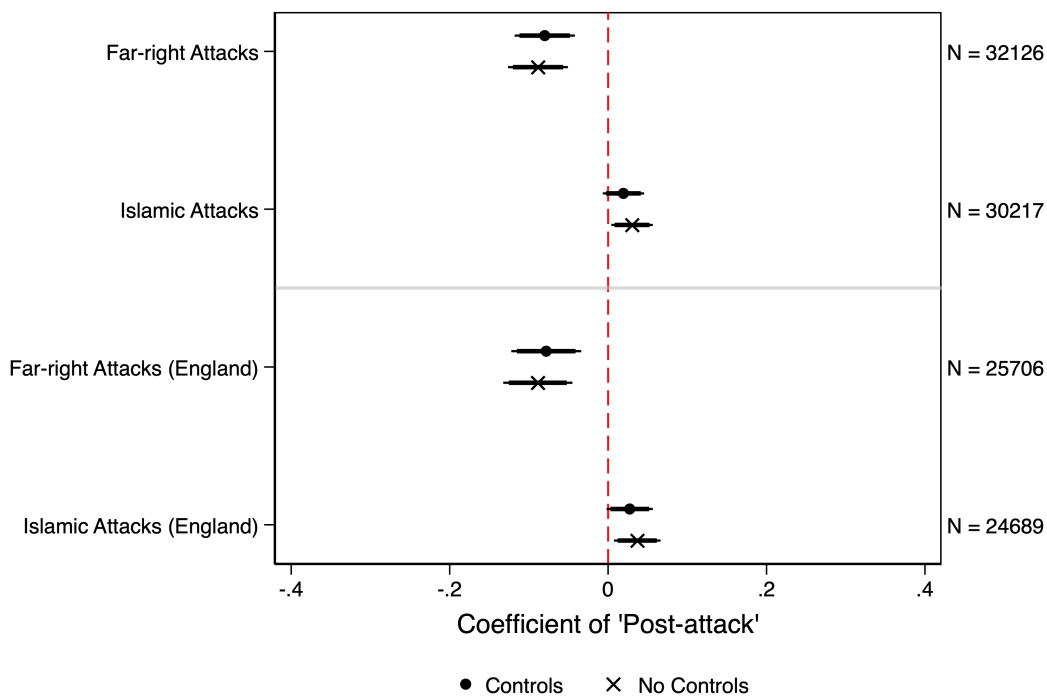
(b) Two-party measure



Notes: The figures are lifted from [Boxell, Gentzkow and Shapiro \(2024\)](#) Figure 1 and Figure 2.

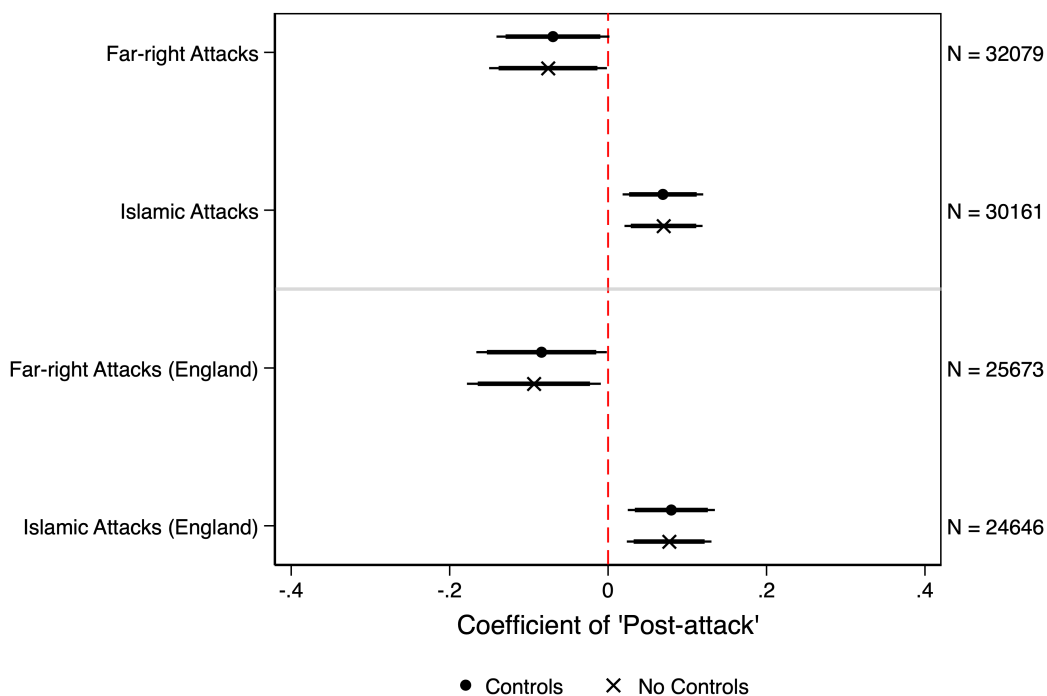
<sup>29</sup>Available [online](#).

Figure C.2b: Terrorism exposure and affective polarization:  
using the weighted measure



Notes: Affective polarization is measured by the spread of like-dislike scores, while accounting for all parties and their size. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

Figure C.2c: Terrorism exposure and affective polarization:  
using the two-party-bloc measure



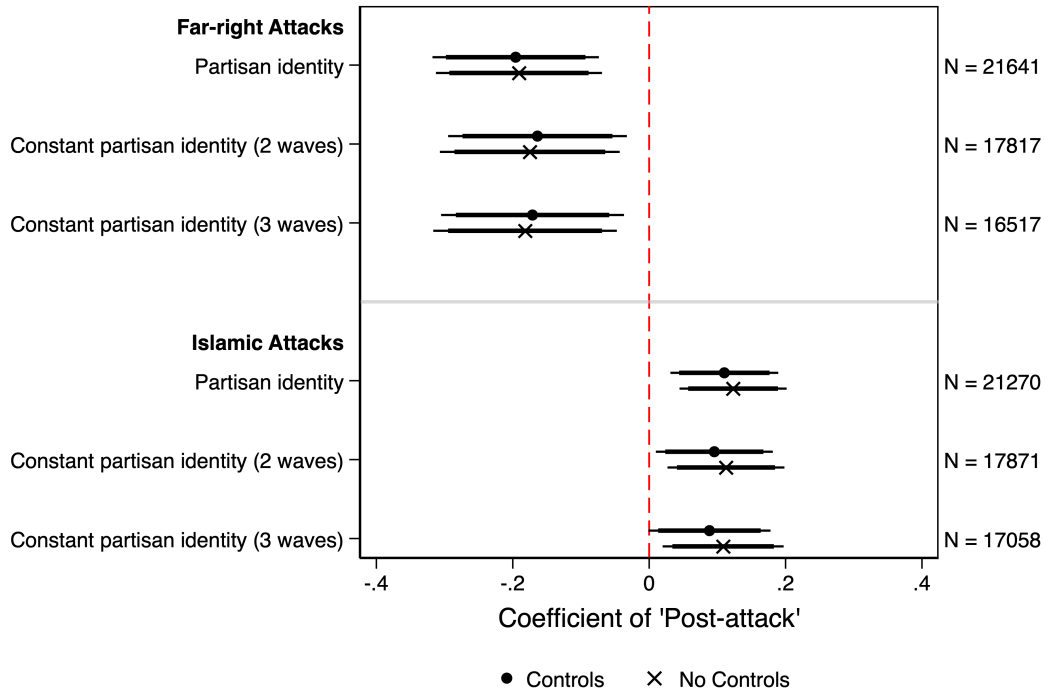
*Notes:* Affective polarization is measured by the distance between the like-dislike scores for the right block (Conservative Party, UK Independence Party, and Brexit Party) and the center-left block (Labour Party, Liberal Democrats, and Green Party). All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

### C.3 Excluding potential swing voters

In our main analysis, we examine which partisan groups (Conservatives, Labour, or LD-Greens) display the strongest reactions after far-right and Islamic attacks. To do that, we exploit the sample of respondents who express identification with one of these parties in the BES wave *preceding* the attack. A question that arises here is whether the terrorism-induced effects on affective polarization are comparable across the two samples; i.e., the unrestricted sample of all respondents and the restricted sample of self-declared partisans. The estimates reported in Figure C.3 for the variable *Partisan identity* provide a positive answer to this question: focusing on the sub-sample of Conservative, Labour and LD-Green partisans, and estimating our baseline model separately for the two attack types, produces very similar patterns to those reported in Table 1.

Another concern related to the analysis for partisans is whether the results are driven by potential swing voters; i.e., people who change their responses to the partisan identification question from one BES wave to the next. To address this concern, we run the same analysis for the sample of respondents who identify with the same party/coalition (Conservatives, Labour or LD-Greens) in the two waves preceding the attack, or in the three waves preceding the attack – see estimates in Figure C.3 for *Constant partisan identity (2 waves)* and *Constant partisan identity (3 waves)*, respectively. Despite the significant reduction in sample sizes, the results are little affected by this exercise, suggesting that the inclusion of potential swing voters in our sample does not invalidate our inferences. This finding also reduces the possibility that our key results (in Table 1) can be explained by terrorism-induced changes in partisanship rather than in parties' like-dislike scores. This is because people with pre-treatment constant values of partisanship (i.e., potential core supporters) are less likely to change this partisanship in the aftermath of terrorist attacks.

Figure C.3: Terrorism exposure and affective polarization: excluding potential swing voters



Notes: The dependent variable is *Affective Polarization*. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval. *Partisan identity* shows the post-attack estimates for respondents who identify with Conservatives, Labour or LD-Greens in the BES wave preceding the attack. *Constant partisan identity (2 waves)* and *Constant partisan identity (3 waves)* show the post-attack estimates for respondents who identify with the same party/coalition (Conservatives, Labour or LD-Greens) in the two waves and in the three waves preceding the attack, respectively.

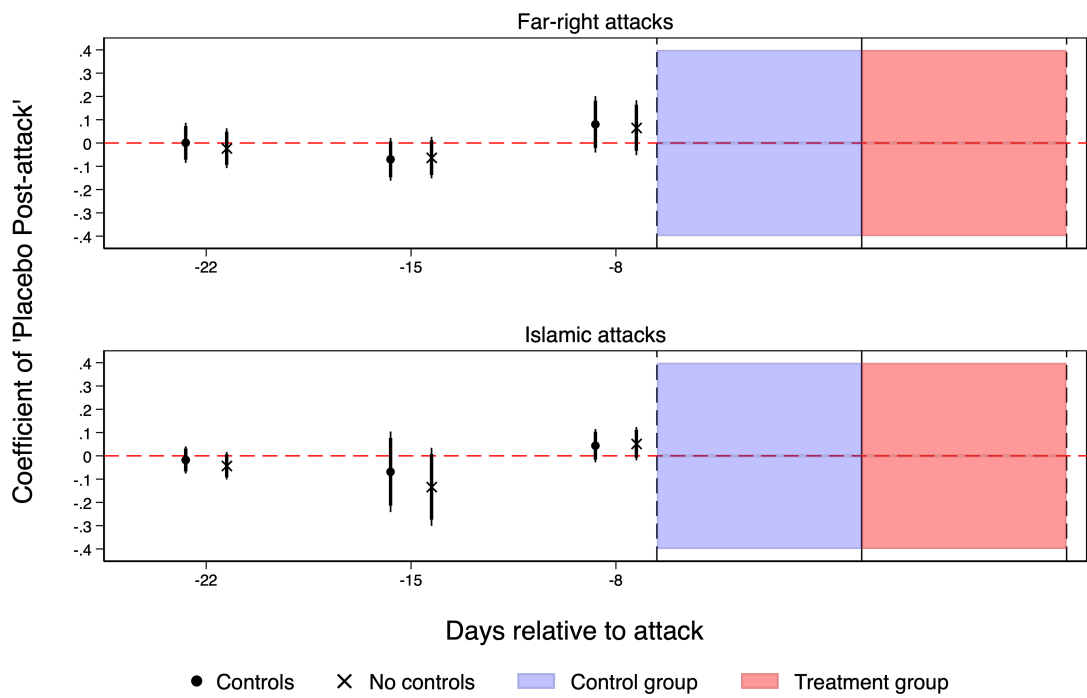
## C.4 Testing for pre-existing trends

To strengthen our causal inference, we test for pre-existing trends in the outcome variable. To do so, we consider placebo treatments at an arbitrary time point in the pre-attack period, as recommended by [Muñoz, Falcó-Gimeno and Hernández \(2020\)](#). We begin by defining the ‘placebo control’ group as individuals interviewed from 8 to 15 days before the actual attacks, and the ‘placebo treatment’ group as individuals interviewed from 7 to 1 days before the actual attacks. We continue by going further back in time and creating a series of placebo tests based on such 7-day bandwidths.<sup>30</sup> We then re-run the main regression set-up and report the results in Figure C.4. In all cases, the placebo treatments have no significant effect on *Affective Polarization*, confirming the absence of pre-existing trends.

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<sup>30</sup>Note we are only able to do this (in a consistent manner) three times, since for some waves there are no data available 29 days before the attack.

Figure C.4: Terrorism exposure and affective polarization: placebo treatments



Notes: The dependent variable is *Affective Polarization*. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. The shaded areas around the solid vertical line denote the true control group (to the left) and the true treatment group (to the right). Thick (thin) lines signify the 90% (95%) confidence interval.

## C.5 Using a narrower bandwidth

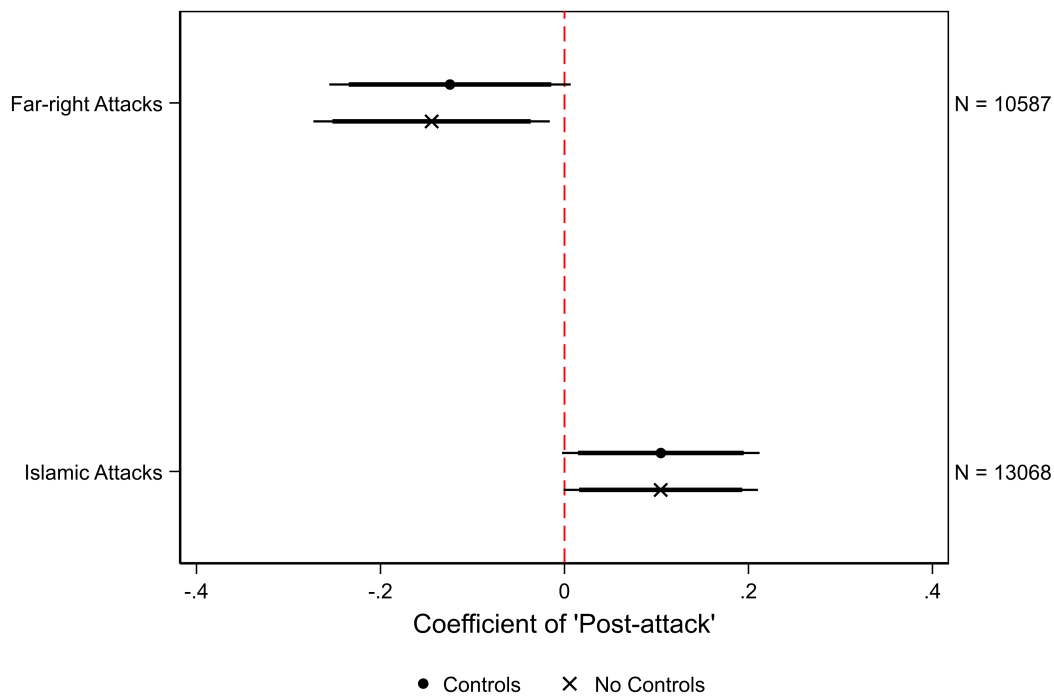
In this section, we explore the sensitivity of our results to using a 3-day bandwidth; that is, we restrict the sample of control and treated units to include individuals interviewed within 3 days before and 3 days after the attacks. As shown in Figure C.5, the estimated treatment effects are almost identical to those obtained in our baseline analysis (based on a 7-day bandwidth) – although they are less precisely estimated due to the much smaller sample sizes (lower statistical power), which is one of the downsides of using narrower bandwidths (Muñoz, Falcó-Gimeno and Hernández, 2020).

It is important to underline that, while our empirical design allows us to detect a meaningful change in affective polarization in the short period after the attacks, it does not allow us to test whether this effect is long-lasting. As noted in Section 3.2, using wider time windows increases the risk of bias due to the occurrence of other (related and unrelated) events, and poses a problem of compound treatments (Muñoz, Falcó-Gimeno and Hernández, 2020).<sup>31</sup> Nevertheless, the similarly-sized estimates across the 3-day and 7-day bandwidths suggest that the observed patterns are not driven by a dramatic spike in people's responses in the first couple of days after the attacks.

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<sup>31</sup>To credibly estimate the duration of terrorism effects, one must focus on survey items that are designed to capture attitudes and feelings *directly* elicited by terrorism (e.g., terrorism risk perceptions), and ensure that no other terrorist incidents occurred within the studied period before and after the attacks (see Bove, Efthymoulou and Pickard, 2024).

Figure C.5: Terrorism exposure and affective polarization:  
using a 3-day bandwidth

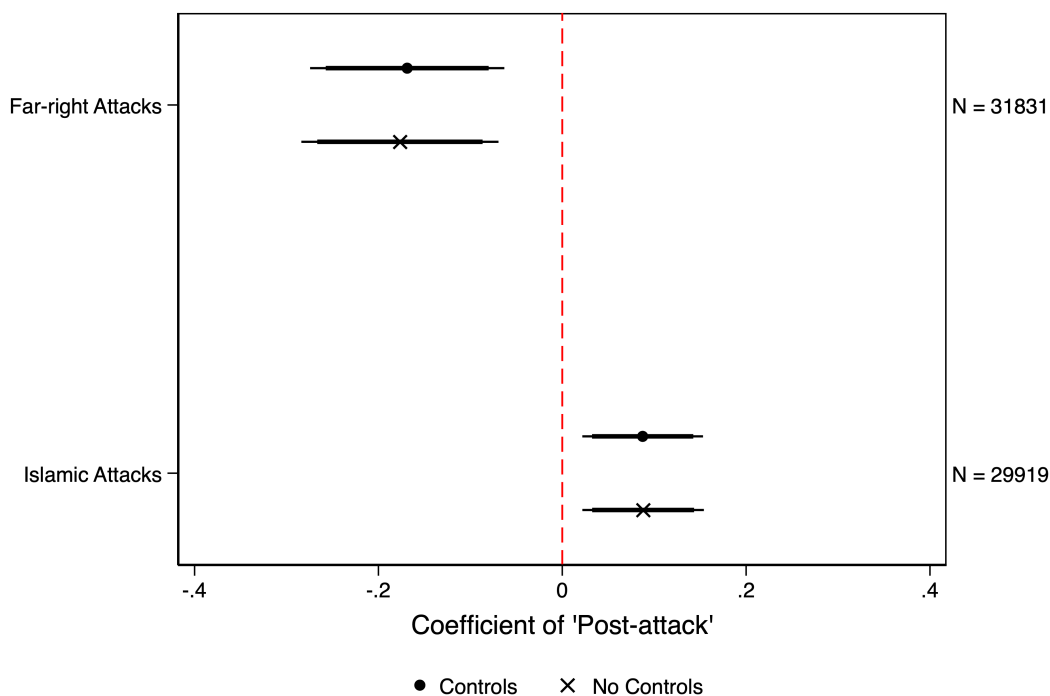


Notes: The dependent variable is *Affective Polarization*. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

## C.6 Dealing with imbalance

To ensure that our results are not affected by covariate imbalances, we re-weight the sample through entropy balancing (Hainmueller, 2012), such that the distribution of covariates among control units matches the moment conditions (mean, variance and skewness) of the treated units. As shown in Figure C.6, this exercise produces estimates which are remarkably similar to the baseline ones.

Figure C.6: Terrorism exposure and affective polarization:  
entropy balancing

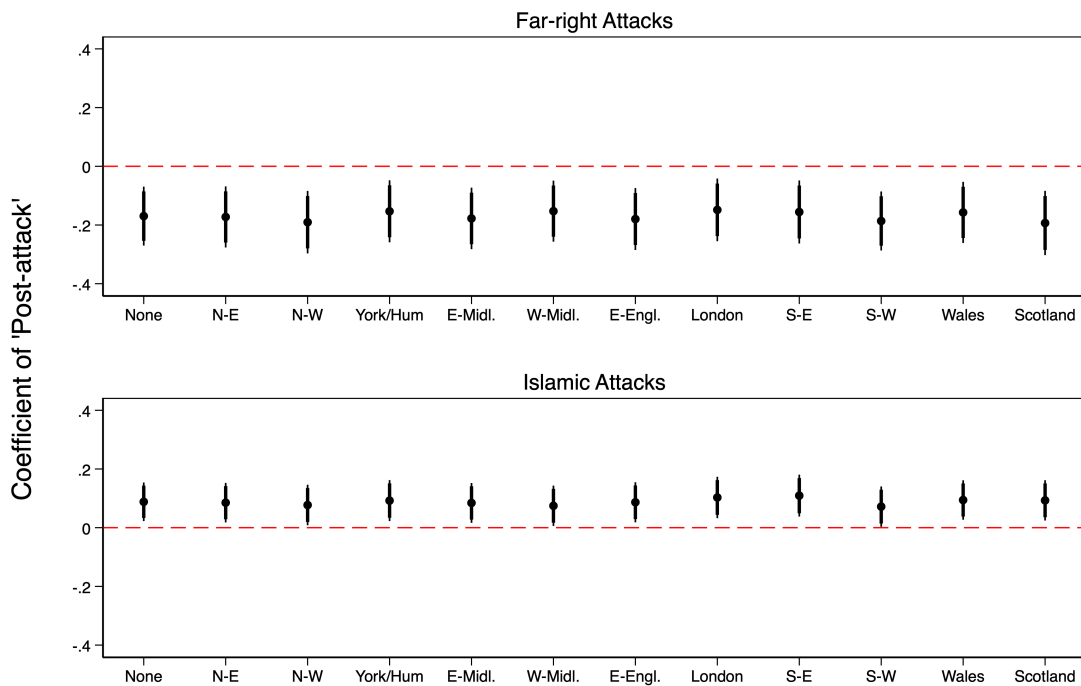


Notes: The dependent variable is *Affective Polarization*. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

## C.7 Excluding regions

In Figure C.7, we run the main regressions for eleven different sub-samples; each time removing all individuals who reside in the same government office region (GOR). Regardless of which region is excluded, the post-attack estimates retain their size and statistical significant (at the 5% level or higher) for both far-right and Islamic attacks.

Figure C.7: Terrorism exposure and affective polarization: excluding regions

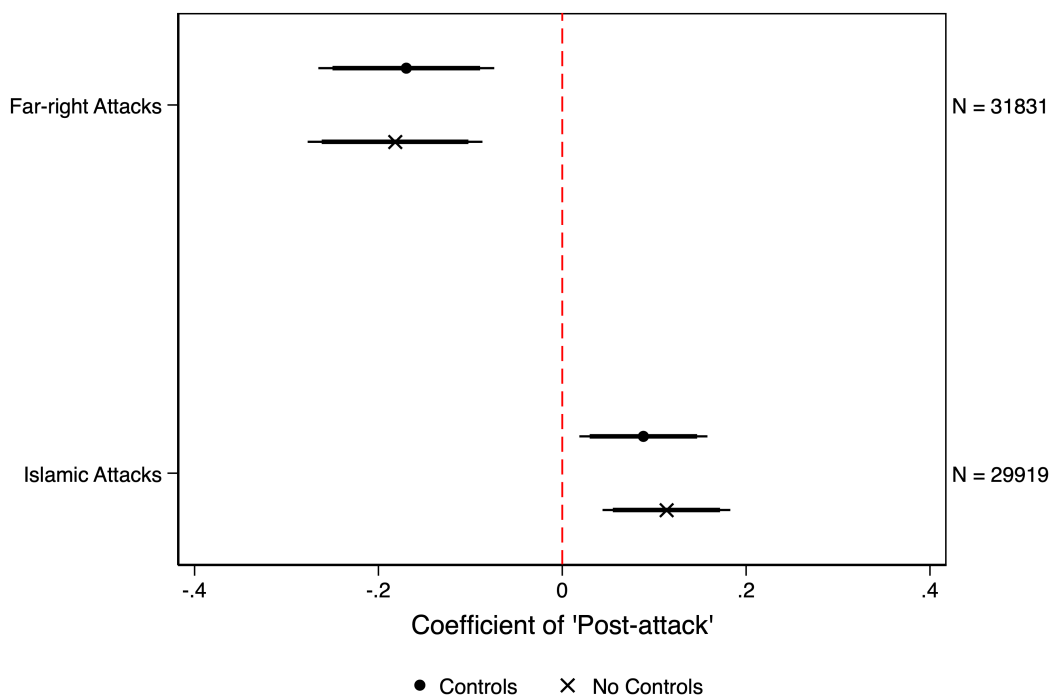


Notes: The dependent variable is *Affective Polarization*. The text on the horizontal axis denotes the excluded government office region. All specifications include  $LAD \times wave$  fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

## C.8 Using alternative error clustering

In this section, we experiment with an alternative clustering of standard errors: at the LAD-by-wave level rather than at the LAD level. As shown in Figure C.8, our results are not affected by the method used to correct the standard errors.

Figure C.8: Terrorism exposure and affective polarization:  
alternative error clustering



Notes: The dependent variable is *Affective Polarization*. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at this level. Thick (thin) lines signify the 90% (95%) confidence interval.

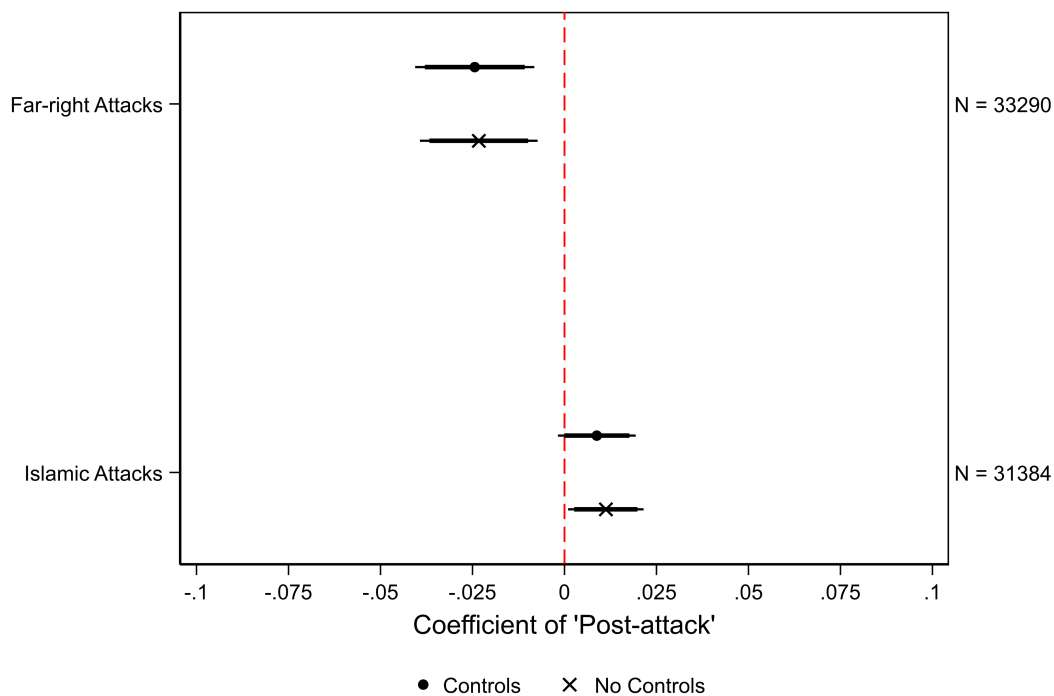
## C.9 Using a binary outcome variable

In our main analysis, we use a continuous measure of affective polarization that takes values between 0 and 10. In Figure C.9, we check the sensitivity of our results to using a binary outcome variable that equals 1 for values above 5 (the median of the continuous measure), and 0 for values equal or below 5. The estimated treatment effects point to the same conclusion: exposure to far-right terrorism induces a shift away from high values of affective polarization, whereas exposure to Islamic terrorism causes the opposite effect. Using back-of-the-envelope calculations (and relying on the 2019 population figures),<sup>32</sup> the estimates suggest that approximately 1.3 million more people exhibit low ( $\leq 5$ ) values of affective polarization after a far-right attack than before that attack, and approximately half a million more people exhibit high ( $>5$ ) values of affective polarization after an Islamic attack than before that attack.

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<sup>32</sup>For consistency with the BES data, we rely on the total number of people aged 16 and over who live in England, Scotland and Wales.

Figure C.9: Terrorism exposure and affective polarization:  
using a binary outcome variable



Notes: The dependent variable is *Affective Polarization (Binary)*. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

## C.10 Heterogeneity by individual characteristics

In this section, we test for heterogeneity with respect to four individual characteristics: age, gender, education and religion. To do so, we estimate models with an interaction between *Post-attack* and different binary indicators that split individuals into the following groups: (i) younger vs. older people (as defined by the median value of the age variable); (ii) females vs. males; (iii) people with a degree or higher qualification vs. those without a degree; and, (iv) people belonging to an out-group/minority religion (Islam, Hinduism, Sikhism, Judaism and Buddhism) vs. those belonging to Christian denominations, other religions, or no religions.

The results are reported in Table C.10. In the first three cases, the interaction term fails to reach statistical significance (for both far-right and Islamic attacks), suggesting that the affective polarization changes following the two types of attacks are not conditioned by age, gender or education. At the same time, we find that those who regard themselves as belonging to an out-group religion are more affectively polarized after Islamic attacks than the rest of the population: the interaction term with *Out-group religion* is positive, very large in magnitude, and statistically significant at the 10% level – despite the fact that it corresponds to only 2.5% of our observations.<sup>33</sup> This is consistent with evidence that individuals of out-group religions face increased discrimination and hatred in the wake of attacks with religious motives,<sup>34</sup> which can make rival parties' positions on immigration and religious tolerance more consequential for them.

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<sup>33</sup>Specifically, the number of respondents who identify with one of the five out-group religions is 795 (far-right attacks sample) and 710 (Islamic attacks sample).

<sup>34</sup>For instance, in the weeks following the 2005 London bombings, there was a dramatic increase in hate crimes against both Muslims and Asians of other religions, such as Hindus and Sikhs (available [online](#)).

Table C.10: Terrorism exposure and affective polarization: heterogeneity by individual characteristics

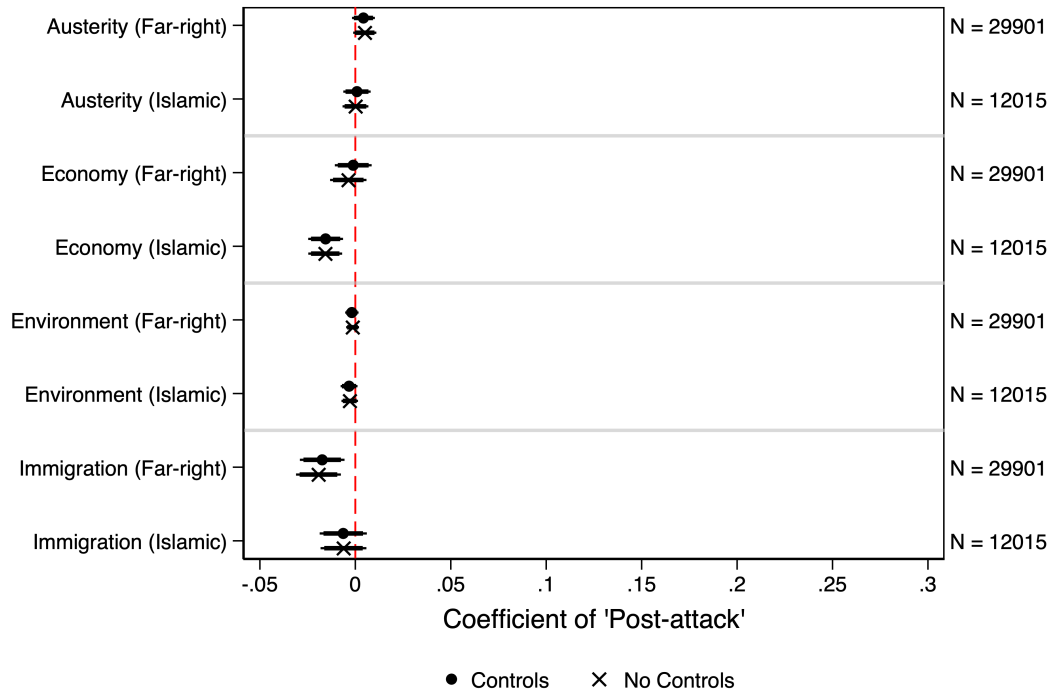
	Affective Polarization							
	Far-right Attacks				Islamic Attacks			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post-attack	-0.215*** (0.063)	-0.192*** (0.065)	-0.200*** (0.064)	-0.173*** (0.051)	0.089* (0.051)	0.055 (0.054)	0.117** (0.046)	0.079** (0.034)
Post-attack × Older	0.106 (0.082)				0.004 (0.072)			
Post-attack × Female		0.042 (0.081)				0.065 (0.081)		
Post-attack × High education			0.086 (0.085)				-0.062 (0.068)	
Post-attack × Out-group religion				0.072 (0.291)				0.360* (0.214)
LAD × wave	✓	✓	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓	✓	✓
No. of LADs	370	370	370	370	370	370	370	370
R-squared	0.061	0.063	0.063	0.062	0.056	0.059	0.059	0.059
Observations	31,831	31,831	32,409	31,831	29,919	29,919	30,416	29,919

Notes: *Older* is a binary variable taking value 1 for people with above-median age, and 0 otherwise. *Female* is a binary variable taking value 1 for females, and 0 otherwise. *High education* is a binary variable taking value 1 for people with a degree or higher qualification, and 0 otherwise. *Out-group religion* is a binary variable taking value 1 for people who regard themselves as belonging to Islam, Hinduism, Sikhism, Judaism, and 0 otherwise. Standard errors are clustered at the LAD level and reported in parentheses; \*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$ .

## C.11 The salience of other popular issues

In our main analysis, we show that individuals are significantly more likely to report terrorism as the most important issue facing the country after they are exposed to both far-right and Islamic attacks – although the effects appear to be much stronger for the latter typology of attacks. In this section, we run the same analysis but now consider the responses to four other popular issues facing the country: austerity, the economy, the environment and immigration. As can be seen in Figure C.11, the post-attack change in the probability of reporting one of these issues as the most important national problem is either zero or marginally negative (with a negative value indicating that terrorism sways public opinion away from this issue), and this applies to both far-right and Islamic attacks.

Figure C.11: Terrorism and other popular issues



Notes: The dependent variable is listed on the vertical axis. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

## **C.12 Support for immigration and far-right stances: by partisan group**

In Section 5.2, we show that, after far-right attacks, citizens take a more pro-immigration stance and express more negative feelings about UKIP (i.e., the far-right party), whereas, after Islamic attacks, there is a small increase in the party's affinity levels. In Table C.12, we test whether these effects can be attributed to a specific group of self-declared partisans. Like before, we focus on people who identify with: (i) the Conservative Party; (ii) the Labour Party; (iii) the Liberal Democrats or the Green Party. The results suggest that the pro-immigration shift after far-right attacks is mostly driven by individuals who identify with the Conservative Party. Interestingly, we also find that Conservative partisans are responsible for the increase in UKIP's favorability rating in the aftermath of Islamic attacks.

Table C.12: Immigration attitudes and affect towards the 'far-right':  
by partisan group

Panel A	Far-right Attacks					
	Immigration Enriches Culture			Immigration Good for Economy		
	(1)	(2)	(3)	(4)	(5)	(6)
Post-attack	0.115** (0.052)	0.059 (0.055)	-0.042 (0.095)	0.173*** (0.045)	0.031 (0.051)	-0.010 (0.086)
Partisan identity	Con.	Lab.	LD & Green	Con.	Lab.	LD & Green
LAD × wave FEs	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓
No. of LADs	367	366	335	367	366	335
R-squared	0.132	0.228	0.271	0.158	0.236	0.295
Observations	8,645	8,588	2,901	8,556	8,552	2,874

Panel B	Far-right Attacks			Islamic Attacks		
	Like UKIP					
	(1)	(2)	(3)	(4)	(5)	(6)
Post-attack	-0.009 (0.088)	-0.005 (0.083)	0.155 (0.116)	0.114* (0.060)	0.010 (0.048)	0.020 (0.057)
Partisan identity	Con.	Lab.	LD & Green	Con.	Lab.	LD & Green
LAD × wave FEs	✓	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓	✓
No. of LADs	368	366	335	368	366	329
R-squared	0.136	0.194	0.286	0.122	0.199	0.262
Observations	8,700	8,783	2,961	9,144	7,761	3,224

Notes: Standard errors are clustered at the LAD level and reported in parentheses; \*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$ .

### C.13 Other dynamics: support for the incumbent

In Section 5, we present evidence for why far-right and Islamic attacks induce different affective reactions. These explanations are based on the perceived salience of terrorism and the attitudes towards immigration and far-right stances. Another possible explanation is related to how terrorism impacts support for the incumbent Prime Minister (PM). Terrorist acts may activate a rally-round-the-flag effect – wherein citizens exhibit increased trust in government and approval of national leaders – leading to a lower degree of affective polarization. One would expect this dynamic to be stronger in the case of Islamic attacks, which are perceived by the general public as an “external threat” and have the potential to target every citizen (Godefroidt, 2023). On the other hand, and as suggested in Section 2, the rally effect might become more visible in the case of far-right attacks, due to the absence of other countervailing (polarization-increasing) dynamics.

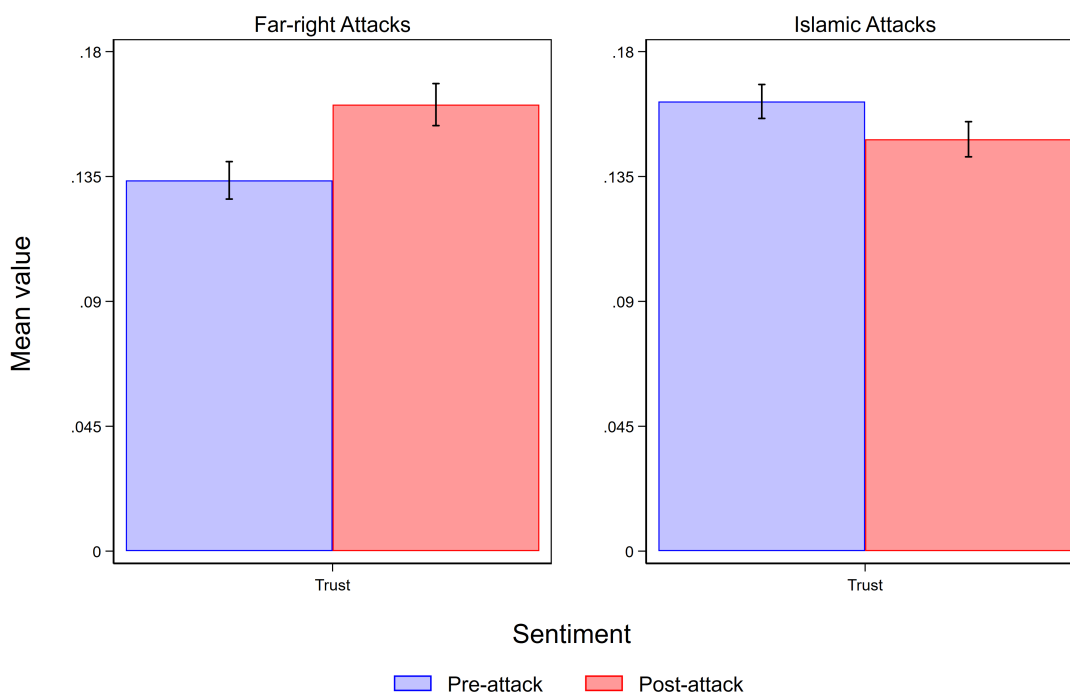
To explore these arguments, we perform a sentiment analysis using Twitter data as in Section 5.2, but now exploit information on tweets containing keywords related to the PM, and focus on the emotion of ‘trust’. Figure C.13a displays the average values before and after the four sampled attacks, separated by perpetrator type. As we can see, whereas there is a notable increase in feelings of trust associated to the PM after far-right attacks, the opposite effect seems to emerge after Islamic attacks. As a further test, we employ data from BES and estimate our baseline model (separately for far-right and Islamic attacks) using the like-dislike score for the incumbent PM as the outcome variable. As shown in Figure C.13b, only after Islamic attacks does the incumbent’s favourability rating change, with individuals reporting significantly lower levels of affinity for the sitting PM.

It must be stressed, however, that one has to be very cautious in interpreting the findings in this section as presence or absence of a rally-around-the-flag dynamic, since the effects may also reflect idiosyncratic responses to the handling of the attacks by each one of the sitting PMs, and be confounded by the fact that all four attacks in our sample occurred under a government with the same political colour.<sup>35</sup>

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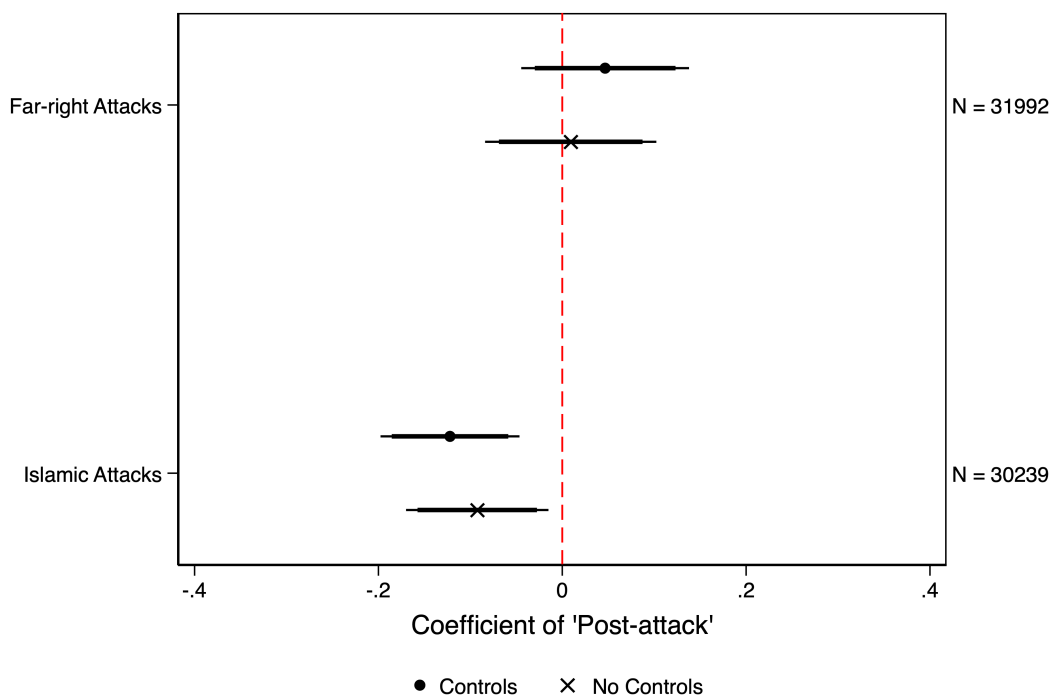
<sup>35</sup>Specifically, all attacks occurred under a Conservative government: David Cameron was the PM at the time of the MP Jo Cox murder; Theresa May at the time of the Manchester Arena and Finsbury Park attacks; and Boris Johnson at the time of the London Bridge stabbing.

Figure C.13a: Emotional scores for tweets about the prime minister: trust



Notes: Far-right attacks: N=6,111 from a sample of 2,751,913 tweets. Islamic attacks: N=6,661 from a sample of 2,063,440 tweets. Black bars signify the 90% confidence interval.

Figure C.13b: Terrorism exposure and affect towards the prime minister



Notes: The dependent variable is the like-dislike score (0-10) for the incumbent prime minister. All specifications include LAD  $\times$  wave fixed effects. Standard errors are clustered at the LAD level. Thick (thin) lines signify the 90% (95%) confidence interval.

## D Twitter Data Details

In this section, we detail the process of gathering the tweets, measuring emotions, defining topics and presenting the Twitter analysis results.

We use Twitter's API v2 to collect English language tweets from accounts of geo-located UK users 3 days before and 3 days after each of the four attacks in our sample. In total, we gather 4,815,353 tweets: 2,751,913 tweets posted around the two far-right attacks and 2,063,440 tweets posted around the two Islamic attacks. In order to measure the valence and emotional content of the text contained in each tweet, we use a dictionary-based method, the NRC Emotion Lexicon *EmoLex* (Mohammad and Turney, 2013). The lexicon contains 14,182 words and 25,000 senses, and each one of these words/senses is linked to two sentiments (negative and positive) and eight emotions (anger, fear, sadness, disgust, anticipation, trust, surprise, and joy). This tool is well adapted for the analysis of social media content given its ability to assign scores to emojis as well as text.

We use the Word2vec algorithm to identify the sample of tweets that pertain to certain topics. The algorithm uses a neural network model to learn word associations from a large corpus of text. In our case, we use a pre-trained algorithm that is trained on a Google News dataset (about 100 billion words). For a given input word, the trained model outputs synonymous words, or phrases, based on their cosine proximity. Our input words are 'immigration' for the analysis in Section 5.2 and 'prime minister' for the analysis in *SI Appendix* Section C.13. We use the top 50 most similar words, and the word itself, to identify tweets that discuss each of these topics. By doing so, we identify 6,879 (3,834) tweets that mention the topic 'immigration' and are posted around the far-right (Islamic) attacks; and 6,111 (6,661) tweets that mention the topic 'prime minister' and are posted around the far-right (Islamic) attacks. Finally, to draw inferences about the impact of terrorism on feelings about immigration and the prime minister, we compare the pre- and post-attack average values of relevant emotions about each topic. These are calculated using the share of words assigned to a given emotion across all lexicon-identified words included in the immigration-related tweets or the prime-minister-related tweets.

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