

Climate disasters exacerbate polarization: Could cross-partisan outreach help?*

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Abstract

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1 Introduction

Do climate disasters exacerbate polarization? The findings on the net effect of natural hazards are mixed. While some studies show that disasters may improve social capital and pro-social behavior (Yamamura, 2016), others are skeptical, and point to how unequal and politically-motivated government responses to natural disasters may fuel conflict (Petrova, 2022; Wang & Ganapati, 2018). We present the results of a statistical analysis based on two country-level datasets that wildfires and exposure to floods as climate disasters fuel political polarization. If that is the case, can public officials depolarize politics by helping members of their partisan out-group?

On the one hand, we would expect inter-group cooperation and warm relations between rival partisan elites to help depolarize (Huddy & Yair, 2021; Wojcieszak & Warner, 2020). On the other hand, in the contexts of electoral autocracies, where opposition coordination is challenging (Helms, 2023), developing ties across the aisle is politically costly, and government propaganda intensifies polarization (Somer, 2022), cross-partisan outreach may not materialize, or not work even if it does.

One such depolarization strategy is the post-disaster relief aid distributed by opposition-controlled metropolitan municipalities to pro-government provinces hit by destructive floods. To test its effects on political tolerance and affective polarization, we conducted an in-person survey experiment with a sample of the Turkish population – a country that experienced democratic backsliding, suffers from an ethnic conflict, and has the highest level of affective polarization globally (Papada et al., 2023). Our findings show that in response to natural disasters, costly public acts *can* increase political tolerance of out-party members. However, they backfire in terms of affective polarization, and make it more likely for the opposition supporters to be conceived in negative terms like hypocrite.

The contributions of this analysis are two-fold. First, we show that depolarization strategies may have divergent effects on affective polarization and political tolerance, even though they are closely intertwined. Secondly, the external validity of common tactics of depolarization discussed in the U.S. context should be empirically tested, especially in countries with intense government propaganda that deploys polarization as a political technology.

This paper is structured as follows. First, we outline the political consequences of disasters, and present statistical evidence that climate hazards exacerbate political polarization. After we discuss the literature on the tactics of depolarization, we describe the Turkish context and why it constitutes a hard test to probe the effectiveness of depolarization strategies. Then we explain the intervention and data, followed by a discussion of the results.

2 Disasters and polarization

Extreme climate events like wildfires, floods, and draughts may have serious political consequences. There is an extensive body of scholarship that probes how personal experience of natural disasters may shift people's political preferences and participation, and hurt or boost the electoral prospects of incumbents depending on their response to the crisis (see Baccini and Leemann, 2021; Bechtel and Hainmueller, 2011; Chen, 2013; Fair et al., 2017; Gasper and Reeves, 2011; Heersink et al., 2017 among others).

On the one hand, there may be a silver lining to these disasters. These natural hazards may help reduce out-group hostility simply through the shared experience of trauma and loss and serve as a rallying cause for bringing communities together by facilitating pro-social behaviour in the face of hardship. There is some scholarly evidence that disasters may foster community participation (Yamamura, 2016), interpersonal and out-group trust (Ahmad & Younas, 2021; Lee, 2020), and trust across ethnic groups (De Juan & Hänze, 2021). Though partisan cues would serve as useful heuristics for pointing fingers at out-group politicians to blame for the disaster, such abrupt and shocking events may also prompt anxious voters to put partisan cues aside and accept blame attributions that contradict their partisan predispositions (Atkeson and Maestas, 2012, p. 98; see also Malhotra and Kuo, 2008). One illustrative case is how in the aftermath of devastating wildfires in Oregon, some communities were able to get mobilized and ‘put politics aside.’ The sheer scale of the disaster made it possible for bipartisan legislation to update forestry regulations after years of political gridlock¹. These findings are not uncontested, though. There are also good reasons to believe that disasters may hamper social capital and spark conflicts.

The government’s response to disasters mediates the effects of disasters. The disasters may have adverse outcomes when the distribution of post-disaster relief is politically motivated. Politicians may allocate more resources to their core strongholds or swing states, even though such partisan allocation is not necessarily the public’s preference (Bechtel and Mannino, 2022, p. 274; Reeves, 2011). Unequal and partisan responses to disasters and institutional failure with post-disaster recovery may thus turn these affected constituencies to authoritarian/populist parties and dampen public support for democracy in the short run (Cerqua et al., 2023; Katz & Levin, 2016). The lack of state capacity or trust in institutions may also condition the effects of disasters, culminating in the erosion of social capital and increased communal violence (Carlin et al., 2014; Petrova, 2022; Wang & Ganapati, 2018). Disasters may also indirectly escalate government repression and human rights abuses through more frequent contentious activities (Apodaca, 2017). The protest activities may be an outcome of internal migration – sustained exposure to extreme climate conditions may spur internal migration and heighten the conflict perception of migrants in their new location(Ash & Obradovich, 2020; Kouibi et al., 2018) ².

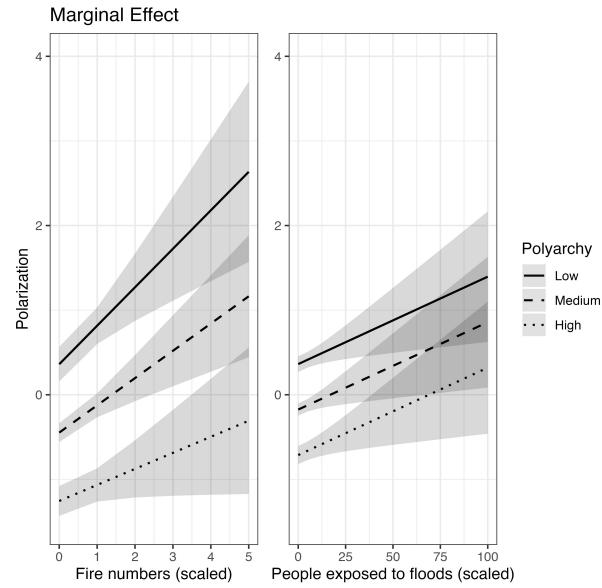


Figure 1: Marginal effects of fire events and exposure to floods on political polarization.

¹Baker, Mike. 2020. ‘After Years of Political Gridlock, Oregon’s Fire Disaster Brings New Reality.’ *The New York Times*, September 23; Johnson, Nathanael. 2021. ‘How one town put politics aside to save itself from fire.’ *Grist*, September 1.

²There is an extensive body of scholarship that scrutinizes the impact of climatic stress on the con-

We present statistical evidence that extreme weather events may indeed spur political polarization. We create two country-year level datasets using number of fire estimates from the European Forest Fire Information System (EFFIS) database, and the estimate of the size of population exposed to a flood event from the Global Flood database, and V-DEM's (Coppedge et al., 2023) political polarization measure³. Our results show that both the annual number of fires and exposure to floods significantly exacerbate the levels of political polarization. Figure 1 illustrates the marginal effects of the number of fires and the people exposed to floods on political polarization at different levels of polyarchy. The effect size is non-negligible – going from minimum to maximum number of forest fires increases political polarization by more than one standard deviation. Similarly, moving from the least to the greatest number of people exposed to floods results in an increase in political polarization by more than 1.5 standard deviation. Such rises may be especially troubling for fragile democracies, given their relatively higher scores of political polarization.

If natural hazards exacerbate polarization, which strategies can help de-escalate?

3 Depolarization Strategies

There is a large literature that examines the effectiveness of different tactics of reducing affective polarization⁴. These tactics include correcting misperceptions people hold about their partisan out-groups (Ahler & Sood, 2018; Druckman et al., 2022), civility from out-party members and warm relations between rival politicians (Druckman et al., 2019; Huddy & Yair, 2021; Skytte, 2021), co-operative interactions with out-groups (Wojcieszak & Warner, 2020), priming patriotism and common identity (Levendusky, 2018), and deliberative inter-group contact (Fishkin et al., 2021) among others. However, most of these studies were conducted with samples from the U.S. and the generalizability of these findings to other political contexts is yet to be fully empirically tested.⁵.

One such context is countries that experienced democratic backsliding in the hands of populist autocrats. Political leaders such as Orban in Hungary or Erdogan in Turkey employ polarization as a political technology that fragments the opposition and consolidates their support base in order to win the electoral game (Somer, 2022). They do so by driving wedge between different social groups, rendering ethnic, sectarian, and cultural differences politically salient. They rely on an extensive propaganda apparatus to dominate the media environment and delegitimize their out-groups. In these contexts, first, misperceptions about out-group members are likely to be more salient and pronounced, and what people perceive of common national identity tend to be quite divergent. Second, the history of selective co-optation and repression of the opposition members leave the opposition bloc fractured (Arriola et al., 2021; Nugent, 2021), making it politically costly for politicians from opposing partisan groups to communicate across the aisle and develop warm relations. The political

flict intensity. This literature is sharply divided with contested findings that include indirect effects and convoluted mechanisms. See Ide (2018) and Sakaguchi et al. (2017) for a review.

³For details on the statistical models, datasets, and main results, see Appendix D: Polarization and Disasters.

⁴By affective polarization, we mean the tendency of people to perceive co-partisans in positive and opposing partisans in negative terms (Iyengar et al., 2019, p. 130).

⁵For notable exceptions see Kim et al. (2018) and Peffley et al. (2024).

intolerance of such cross-partisan ties would be prevalent especially for groups that are allegedly linked to terrorist groups demographically (Peffley et al., 2024).

Despite such challenging political terrain, there are limits to the effectiveness of populist politics and authoritarian propaganda. First, opposition parties can still develop strategies to reduce polarization – one such strategy is to define their politics with ‘positive, service-oriented and non-ideological messages’ (Esen & Gümüşcu, 2019; Somer et al., 2021, pp. 941). This strategy is reflected, for instance, in opposition-controlled municipalities’ post-disaster relief aid to government-controlled areas in Turkey. Second, uncivil slurs populated by pro-government media may backfire among government supporters (Druckman et al., 2019), while civility from opposition media towards government supporters can help depolarize.

Affective polarization has downstream consequences. Affective polarization and political tolerance⁶ are linked (Kingzette et al., 2021), as partisans discriminate against the opposing partisan groups (Iyengar & Westwood, 2015), though the extent to which they are linked depends, in part, on whether in-group norms and elites emphasize the importance of political tolerance (Chong et al., 2022; Peffley et al., 2024). We would expect depolarization strategies to boost political tolerance of the opposition parties.

In the next section, we discuss why Turkey presents a hard test to probe the effectiveness of depolarization strategies, and how the opposition-controlled metropolitan municipalities distribute disaster relief aids in a cross-partisan fashion to contain political polarization.

4 Turkey: A hard test for depolarization

The Turkish context offers a hard test to study the effectiveness of depolarization and cross-partisan outreach strategies. First, according to V-DEM (Papada et al., 2023), Turkey has the highest level of political polarization globally, following years of gradual democratic breakdown. The threat perceptions among partisan groups are incredibly high to the point where they believe their out-group poses an existential threat to their economic welfare and political freedom (Laebens and Öztürk, 2020, p. 247). Under hyper-polarization, the electorate across the political spectrum has started to perceive elections as a zero-sum game, which resulted in increasing public support for executive aggrandizement, electoral intimidation of out-group members, and a sharp decline in political tolerance towards them (see Arbatlı and Rosenberg, 2020, p. 297; Şaşmaz et al., 2022). In addition, these negative threat perceptions have permeated social life and hampered social willingness to engage with out-group members. According to results of a recent nationally representative survey in Turkey, 72% of respondents do not want to do business with the supporters of the most-distant political party; 61% do not want to be neighbors with them (TurkuazLab, 2020).

The AKP’s divisive political strategy has culminated in this unprecedented level of polarization (Somer, 2019). Even though there are long-running identity cleavages in Turkey, such as an ethnic divide between Turks and Kurds and sectarian cleavage between Sunnis and Alevis (Aydin-Düzgit, 2019, p. 20), the primary reason for such polarization is that the AKP government has successfully employed polarization as a political strategy over the years to win the electoral game. They did so by reproducing and re-defining deep-seated

⁶Political tolerance refers to the extent to which people support extending civil liberties to groups with highly disagreeable/offensive opinions (see Gibson, 2013, p. 46).

cleavages while inventing new ones to divide the electorate into categories of us-vs-them and consolidate their core support group (Yardimci-Geyikçi, 2023, p. 330; Somer, 2022, p. 296). Such a divide-and-conquer strategy has also made it difficult for the opposition parties to mount a collective challenge against the regime. In the aftermath of the Gezi Park protests in 2013 and the failed coup attempt in 2016, the regime has become increasingly repressive, and their selective crackdown on the opposition has furthered polarization within the anti-government camp (see Nugent, 2021).

In 2018, a new electoral law allowed political parties to form coalitions to collectively beat the 10% electoral threshold⁷. This new electoral setting offered an incentive to opposition parties to resolve their collective action problems. As a result, two major electoral coalitions emerged: one is the incumbent right-wing populist electoral alliance, called *Cumhur*, formed by the AKP along with two nationalist parties: MHP and BBP. The other is the main opposition party alliance, called *Millet*, which consists of parties that represent different ideological groups from across the spectrum: CHP, the center-left main opposition party; IYIP, a center-right nationalist party; SP, an ultraconservative and Islamist party; DP, a right-wing party, and later joined by two parties founded by ex-AKP ministers after they had defected from the regime: DEVA, a centrist liberal party, and Gelecek, a right-wing conservative party. Therefore, the opposition alliance crosscut several social cleavages, such as the religious-secular divide, which had been used by the AKP government in the past to justify autocratic power grabs.

However, these alliances exclude the pro-Kurdish party, HDP. This is unsurprising because the most distant partisan group for almost $\frac{3}{4}$ of the electorate is the pro-Kurdish political party supporters (TurkuazLab, 2020). The incumbent politicians and pro-government pundits often take advantage of this securitized ethnic divide to alienate the nationalists within the opposition camp and propagate that the opposition parties secretly collaborate with HDP and, by an alleged association, PKK, a terrorist organization⁸. The government framing impacts opposition coordination: In 2019, IYIP decided not to run for local elections in Igdir, where votes are split between HDP and MHP, to prevent HDP from winning office and credibly deny allegations of collusion behind closed doors⁹. In the end, the electorate is largely divided into three camps, *Cumhur*, *Millet*, and HDP, which is what makes polarization in Turkey unique: its tripartite nature. These camps are highly polarized along a democracy-authoritarian cleavage (see also Metin and Morales, 2022, p. 8). Given its tripartite nature and high intensity of government propaganda, Turkey presents a hard test for probing the effectiveness of depolarization strategies.

Turkey has been a testing ground for depolarization tactics. In the 2019 local elections, opposition parties performed quite well against the incumbent alliance thanks to their pre-election collaboration. Against staggering odds, they took over several critical metropolitan municipalities, including the three largest cities: Istanbul, Ankara, and Izmir¹⁰. One of the

⁷AA. 2018. ‘Seçim ittifakına ilişkin teklif yasalaştı.’ AA, March 13.

⁸For an illustrative propaganda piece, see Duran, Burhanettin. 2023. ‘Turkish opposition’s muted response to PKK no longer justifiable.’ SETA, May 4.

⁹AA. 2019. ‘İYİ Parti Genel Başkanı Aksener: İgdir ve Ahlat’ta Cumhur İttifakı’nı destekliyoruz,’ March 27.

¹⁰Such electoral victories against competitive authoritarian and populist regimes are rare events due to the incumbency advantage, like Orbán’s shock defeat in the Budapest election in 2019 or PiS’s defeat in

reasons the opposition candidates in Turkey were successful against the incumbent alliance was that they used an inclusive discursive strategy. For instance, the CHP's main political strategy was summarized in a booklet called 'Book of Radical Love,' and party members were instructed to be empathetic and appealing to pro-government voters (Esen and Gümüşcu, 2019, p. 326). Demiralp and Balta (2021) call this strategy 'inverted populism.' For instance, Istanbul mayor Ekrem İmamoğlu utilized cross-cutting inclusive framings to bridge Turkey's traditional social-partisan cleavages: 'Everyone is my equal, first class, respected, and patriotic fellow citizen! No more Turkish, Kurdish, Laski, Circassian, Jewish, Greek, or Armenian. In this city, everyone is an Istanbullite!' (Demiralp and Balta, 2021, 16)

In addition to an inclusive discourse, opposition parties have also leveraged municipal resources now at their disposal for their political campaigns to sway public opinion. To put things in perspective, the combined annual budgets of the three largest opposition-controlled municipalities roughly correspond to 8 billion USD¹¹. The opposition mayors have pledged to fight corruption and manage municipal finances responsibly while investing in popular social policy programs and major infrastructure projects to boost their popularity¹². Therefore, the opposition takeover of major municipalities disrupted the AKP's clientelistic networks.

These patronage networks have been the cornerstone of the AKP's authoritarian political economy (Esen & Gümüşcu, 2020), vital for their sustained electoral success. For example, the AKP government has allocated discretionary resources to AKP-controlled municipalities in competitive districts to win elections (Kemahlioglu and Ozdemir, 2018, p. 127). They have channelled municipal resources to the pro-AKP urban constituency in poor neighbourhoods – one of the core support groups of the incumbent alliance (Esen and Gümüşcu, 2020, p. 9). That is why the loss of access to these municipal resources posed a serious threat to the clientelistic networks that were carefully built up by the AKP party machinery over the years (Ceviker Gurakar & Bircan, 2018; Yıldırım, 2020). The protracted financial crisis since 2018, indicated by hyperinflation, a chronic current account deficit, and depleted foreign reserves, has also severed the fiscal burden on these clientelistic networks¹³. As a result, municipal politics has been a fierce battleground. Therefore, the study of sub-national politics in Turkey offers analytical leverage for making sense of regime and polarization dynamics (see O'Dwyer and Stenberg, 2021, p. 511).

The AKP government also deploys well-funded propaganda to counter the opposition's depolarization tactics, which makes the playing field uneven for the opposition (Levitsky & Way, 2010). The regime has forcefully taken over the mainstream media over the years (Arat and Pamuk, 2019, p. 129), and now pro-government outlets largely dominate the media landscape, which puts constraints on the opposition's media outreach. For example, the opposition's presidential candidate, Kemal Kılıçdaroğlu, was only live-broadcast during presidential elections for half an hour by the national television network TRT, compared to

mayoral elections in 2021 (Kovarek & Littvay, 2022; Scheppele, 2022).

¹¹Author's calculation based on 2023 budgets.

¹²Cumhuriyet. 2022. 'İBB Başkanı İmamoğlu, görevindeki üçüncü yılını Cumhuriyet'e değerlendirdi: Eleştirenler bizi seçecek, August 22; Yuce, Muzeyyen. 2022, 'Mansur Yavaş 3 yılını anlattı, 110 proje tanıttı.' *Duvar*, June 29.

¹³Cohen, Patricia. 2021. 'How Did Turkey's Economy Go So Wrong?' *The New York Times*, December 14.

more than 60 hours for the incumbent coalition's party leaders¹⁴. HDP leaders are almost never broadcast by pro-government media¹⁵. The government has also enlisted a sizable army of trolls on social media, who have used vile and accusatory language, demonized the opposition, and exacerbated polarization on these platforms (Bulut & Yörük, 2017).

Opposition mayors receive their fair share of government propaganda online and on mainstream media. High-ranking incumbent politicians frequently deliver divisive and polarizing public statements to tarnish the reputations of mayors of Istanbul, Izmir, and Ankara. The pro-government media often depict them as 'unpatriotic', 'corrupt', or 'incompetent'¹⁶. The government also manufactures public support for repressing opposition mayors through propaganda. For instance, following the 2019 local elections, the Interior Ministry arrested tens of HDP mayors, citing terrorism-related criminal charges, and took control of their municipalities by appointing trustees¹⁷. This crackdown was accompanied by pro-government media framing that HDP mayors were allocating municipal resources to PKK¹⁸. Another instance of government propaganda and repression is the conviction of Ekrem İmamoğlu - in December 2022, a court sentenced him to more than two years in prison and banned him from holding office based on bogus charges¹⁹, followed by extensive government propaganda to discredit him and justify the verdict²⁰. Therefore, the Turkish context allows us to examine the scope conditions for the effectiveness of depolarization tactics against autocratic propaganda and repression.

Lastly, Turkey went through several incidents of natural disasters recently, including wildfires, earthquakes, and floods²¹, which have delineated partisan cleavages (Ertan et al., 2023). One such incident was the wildfires in 2021 in southern coastal cities that left hundreds of square miles of forest burnt and dozens hospitalized. The government was harshly criticized for failing to combat the wildfire with accusations that such failure was intentional, as the opposition parties won these coastal cities' municipalities in the last local elections²². The government, in turn, blamed anti-government celebrities who joined the '#HelpTurkey' hashtag on Twitter to plead for help from the international community for portraying the Turkish state as weak and incapacitated²³.

The frequent natural disasters also reveal power struggles between the central government and opposition-controlled local administrations over the distribution of resources. One such

¹⁴Diken. 2023. 'TRT bir ayda Erdoğan'a 32 saat, Kılıçdaroğlu'na sadece 32 dakika yer verdi,' May 2.

¹⁵Evrensel. 2018. 'HDP iki yıldır televizyon programlarında yer bulamıyor,' March 30.

¹⁶Haber7. 2022. 'İmamoğlu ABD ve İngiliz büyikelçileriyle niye görüşüyor? Uzmanlar Haber7'ye değerlendirdi,' February 4; Arslan, Faruk. 2022. 'Beceriksiz Başkan iş bilmez kadro.'Akit, June 14; Cumhuriyet. 2021. 'Tunç Soyer'den 'Paralar nerede' diyen AKP'li Hamza Dağ'a sert yanıt,' August 5.

¹⁷Duvar. 2020. 'Gov't appoints trustees to eight HDP municipalities as crackdown continues,' March 23.

¹⁸Sabah. 2020. 'İşte 'OH' dedirten yatırımlar! Paralar teröre değil hizmete aktarıldı!' December 14.

¹⁹HRW. 2022. 'Turkey: Court Convicts Istanbul Mayor Ekrem İmamoğlu,' December 14.

²⁰Takvim. 2022. 'İmamoğlu'nun mağdur edebiyatlı adaylık tiyatrosunun şifreleri! Kılıçdaroğlu'nu devirme planı: 15 gün önce ne dedi, bugün ne oldu?' December 15; Sabah. 2022. 'Ekrem İmamoğlu, mahkeme kararı sonrası Yunan gazetesine konuştu: Türkiye'yi şikayet etti,' December 19.

²¹Sariyuce, Isil. 2022. 'Turkey battles wildfire for third day near Aegean coastal resort of Marmaris,' CNN, June 24; BBC. 2021. 'Turkey floods: Death toll near Black Sea rises to at least 70,' August 16; BBC. 2020. 'A magnitude 7.0 earthquake hits Turkey's Aegean coast,' October 30.

²²Gall, Carlotta. 2021. 'Turks Wage War on Social Media as Raging Fires Turn Political,' *The New York Times*, August 4.

²³Daily Sabah. 2021. '#HelpTurkey hashtag an influence operation, academic suggests,' August 3.

polarizing issue has been disaster relief funds and donations. Both opposition municipalities and the national government often call for donations to their disaster relief campaigns following major disasters²⁴. However, the central government has exercised a legislative prerogative through the Interior Ministry to increase donations to government-organized relief efforts, by preventing municipalities from collecting donations or accessing their funds in government banks²⁵. The pro-government media also discredits any opposition relief initiatives as ‘hypocrite’ acts that hamper national unity²⁶. Erdogan himself delivered a public statement criticizing these municipal initiatives, calling them out as efforts to create ‘a state within the state.’²⁷ The incumbent government employs a national unity discourse about ‘being in the same boat’ to justify its call for donations to the Turkish Red Crescent and the Ministry of Interior. However, there have been controversies around the lack of transparency and fraud allegations about how these funds are distributed. The opposition party representatives have criticized the government for centralizing the management of these relief funds too much, distributing aid in a partisan fashion, and exploiting these crises to collect money from citizens while preventing opposition municipalities from joining the effort²⁸.

In this controversial and polarized context of post-disaster politics, the opposition municipalities still actively deploy municipal resources for cross-partisan outreach. They have offered donations and services to those in need nationwide after several natural disasters. For instance, in the aftermath of the earthquake that hit Elazig in 2020, a city where the incumbent coalition secured almost 75% of votes in the last local elections, the opposition municipalities mobilized rescue teams and food assistance²⁹. In 2021, following a major flood that wrecked Kastamonu, another government stronghold, the opposition municipalities distributed significant food aid and sent large rescue teams³⁰. Therefore, post-disaster relief aid has become a conventional element of the depolarization toolkit³¹. However, there is no systematic evidence on the effectiveness of cross-partisan post-disaster relief as a depolarization strategy in Turkey, a highly-polarized competitive authoritarian regime. Our study aims to fill this gap.

²⁴Birgun. 2021. ‘Orman İzmir kampanyasında 1,5 milyon TL’den fazla bağış toplandı,’ August 6; Birgun. 2021. ‘Soylu, yangın ve sel için toplanan bağış miktarını açıkladı,’ August 17.

²⁵Euronews. 2020. ‘İmamoğlu’ndan 900 bin TL bağışı bloke eden Vakıfbank’a çağrı: Bu vebalin altında kalmayın,’ April 2.

²⁶Akit. 2021. ‘Ekrem İmamoğlu’nun oyunu patladı! İBB itfaiyesi yangına değil şova gitmiş,’ August 5; Birgun. 2022. ‘ABB’den Mansur Yavaş’ın çizmeyele fotoğrafı yok diyen AKP’liye: Poz verme gailesi yok,’ June 13.

²⁷Guvemli, Ozlem. 2020. ‘İmamoğlu: İBB devletin ta kendisidir, yardım için kimsenin fetvasına ihtiyacı yok,’ Sozcu, April 3; Cumhuriyet. 2020. ‘Erdoğan: Devlet içinde devlet olmanın anlamı yoktur,’ April 1.

²⁸Diken. 2020. ‘Kızılay’a yardım yapanlar bağışını şeffaf şekilde takip edebilecek,’ October 27; Sevgi, Erdem. 2021. ‘Cumhurbşakanı Erdoğan, belediyeleri engelleyip IBAN’da AFAD’ı tek adres yaptı,’ Cumhuriyet, August 14.

²⁹Diken. 2020. ‘İBB arama kurtarma ve yardım ekipleri Elazığ’a gitti,’ January 25.

³⁰IHA. 2021. ‘Ankara Büyükşehir Belediyesinden sel bölgeleri için yardım seferberliği,’ August 12.

³¹We should note that these metropolitan municipalities also distribute aid to other opposition-controlled smaller municipalities in less developed regions of Turkey in a partisan way, too, citing the skewed distribution of national resources by the government as the main reason. e.g., see ANKA. 2021. ‘İBB Yardım Elini Adiyaman’a Uzattı,’ April 13.

5 Experimental Intervention

5.1 Data and Design

To test our hypotheses, we hired a Turkey-based reputable survey research company to conduct an in-person survey ($N \approx 3,500$) in Turkey from November 10 to December 8 of 2022.³² The firm conducted the survey using quota samples from 22 cities and 168 neighborhoods, with respondents balanced on gender and age. The respondents are all Turkish citizens and older than 18. There is a large variation in the sample regarding age, gender, income level, partisanship, and educational attainment (see Appendix B. Descriptive Statistics).

We designed a between-subject vignette-based experiment. We used block randomization, where participants were stratified based on their party identification (whether they are supporters of the incumbent electoral alliance, the main opposition alliance, or the pro-Kurdish party) and then randomly assigned to treatment conditions. Each respondent read a short vignette about aid to a municipality that had recently experienced floods, based on real events. That vignette varied across conditions (see Appendix A. Experimental Intervention).

The control condition presents respondents with information about the severity of floods that impacted multiple regions in Turkey and how resources from across the country were mobilized to help. In the *cross-partisan outreach to HDP* condition, the control description is followed by an anecdote about opposition municipalities' sizeable aid to an HDP stronghold. Alternatively, in the *cross-partisan outreach to Cumhur* condition, that control description is instead followed by an anecdote about significant donations from Ankara municipality to a Cumhur-led municipality and a thank you from another Cumhur figure to Istanbul Municipality for their generosity:

For instance, following the significant flood in Kastamonu, a city where the Cumhur alliance got almost 80% of the votes in the last election, the Ankara Metropolitan Municipality sent a team consisting of 43 personnel along with 18 trucks, and 10 generators as well as other critical equipment to help with rescue operations. Ankara Mayor Mansur Yavas said: ‘We will heal our wounds together.’ Following disasters across the Black Sea region, the district municipalities’ calls for help do not go unanswered. For example, Rize, Cayeli mayor, pro-Cumhur alliance, announced that their request for help from the Istanbul Metropolitan Municipality (IBB) was met immediately. ‘We will help anyone who knocks on our door, regardless of their political orientation. We will not politically discriminate against any municipality in need’, said Istanbul Mayor Ekrem Imamoglu.

Both real anecdotes signalled that the post-disaster aid is sizable and accompanied by collegial and non-partisan elite discourses³³. Finally, in the *government counterpropaganda* condition, that cross-partisan outreach description is contradicted by skeptical pro-government

³²Importantly, all data were collected prior to the massive earthquake of February 6, 2023.

³³Please note that under extreme polarization, it is very challenging to sway people’s attitudes. Therefore, opposition politicians often employ both discursive and material tactics for depolarization purposes. For instance, cross-partisan post-disaster relief is often accompanied by signaling Turkish citizenship as an overarching identity (Levendusky, 2018). This outreach is sometimes met with collegial responses from out-group elites (see Druckman et al., 2019)

media, who claim that the charity was political, and it was just ‘show business’. The treatments were followed by an informational manipulation check that asked respondents a short factual question about the vignette, either about the politician’s name with a statement from the vignette or the city that received the aid.

We then measured their attitudes towards their out-group members with several batteries of questions³⁴. Following the stimuli, we measured political tolerance using a classical module (Gibson, 2013) by asking respondents to agree or disagree (on a 6-point scale) with the claims that their political out-group should be (1) allowed to organize a political rally, (2) allowed to issue political press releases, (3) allowed to participate in elections, and (4) subjected to phone tapping and recording.

Using that same definition of the political out-group, we also measured affective polarization with two batteries of questions (Druckman & Levendusky, 2019). First, we measured their social distance with the out-group with respect to their approval for the out-group members (1) marrying the respondent’s son or daughter, (2) doing business with the respondent, (3) being friends with the respondent’s children, and (4) living as a neighbor of the respondent. Then we asked respondents how well they think certain personal traits describe their out-group members, using a similar six-point scale. Positive traits include patriotic, honorable, open-minded, smart, and generous, while negative traits include arrogant, cruel, selfish, hypocritical, and threatening to the country.

5.2 Results

You can find covariate balance in Appendix B1. Likelihood ratio tests for each block with age, income, gender, education, and religiosity as predictors show randomization was successful³⁵. First, we contrast the average levels of political tolerance towards supporters of Millet alliance for each treatment group, since the Millet-controlled large municipalities are the ones identified as the benefactor of post-disaster relief aid (see Figure 2). Overall, as for voters with Millet alliance supporters as out-group, in 3 out of 4 tolerance measures (5 out of 12 treatments), our stimuli are effective. The cross-partisan outreach with Cumhur-led provinces significantly increases the likelihood of approval for a press release by Millet voters and their electoral participation. The marginal average of tolerating Millet voters’ electoral participation is 2.75 and 3 out of 5 for the control and solidarity treatment groups, respectively. Similarly, the average tolerance of press releases by the Millet alliance is 2.82 and 3 out of 5 for the control and solidarity treatment groups, respectively. Government counter-propaganda is largely ineffective. Solidarity with Cumhur treatment is insignificant for politically tolerating the Millet alliance to stage a rally. Government counter-propaganda, on the other hand, is likely to backfire and significantly increase tolerance, though pairwise contrast of propaganda and solidarity treatments is insignificant for this measure of political

³⁴Their out-group member is defined with respect to an electoral alliance. Because the Millet alliance municipalities are the main aid distributors in the design, Millet voters are identified as the out-group for Cumhur and HDP supporters. For Millet voters, the out-group is defined either as Cumhur or HDP voters, depending on which cross-partisan outreach treatment they received. We specifically asked for voters of electoral alliances.

³⁵ $\chi^2(27) = 25.7$ with $p=0.37$ for Cumhur block, $\chi^2(27) = 27.64$ with $p=0.28$ for Millet block, and $\chi^2(27) = 25.26$ with $p=0.392$ for HDP block.

tolerance. Treatments regarding surveillance as a measure of tolerance are ineffective. The effect of solidarity with the Kurdish provinces treatment is also insignificant across different indicators of political tolerance.

We also disaggregate the results for tolerance toward Millet voters as the out-group, and analyze Cumhur voters and HDP's (see Figure 2) attitudes post-treatment. Among Cumhur alliance voters, the treatment condition of cross-partisan outreach to Cumhur-led provinces significantly increases their political tolerance of Millet alliance's electoral participation, and government counter-propaganda is ineffective. The control group's marginal means of tolerance of Millet's electoral participation is 2.52 out of 5, compared to an average of 2.77 for the solidarity treatment group. However, in terms of other measures of political tolerance, our stimuli are insignificant.

HDP voters are more tolerant of Millet alliance supporters overall than Cumhur alliance voters. For instance, the marginal mean of political tolerance of Millet's electoral participation is 3.91 out of 5 among HDP voters. Given already high levels of tolerance, it is unsurprising that our stimuli are insignificant with one exception: government counter-propaganda backfires when it comes to surveillance of Millet supporters, and significantly decreases HDP voters' willingness to condone it compared to solidarity treatment.

In terms of affective polarization toward Millet supporters, which we measure with different personal traits, in two out of ten measures (two out of thirty treatments), our interventions are significant and counterproductive (see Figure 3). Overall, cross-partisan outreach with Cumhur-led provinces significantly decreases the likelihood of conceiving Millet supporters as open-minded. In addition, solidarity with pro-HDP provinces renders respondents less likely to perceive Millet alliance as patriotic. The marginal mean of perceiving Millet supporters as patriotic is 2.02 out of 5 among the control group respondents, while it drops to 1.79 for respondents exposed to solidarity with pro-HDP provinces.

Among Cumhur voters, government propaganda is effective in two out of ten indicators of affective polarization: Exposed to propaganda, they are more likely to think of Millet voters as a threat and hypocrite. The average score for the control group is 3.07 while 3.34 out of 5 for pro-Cumhur respondents exposed to propaganda treatment. Among HDP voters, cross-partisan outreach with HDP-led provinces backfires and makes them think of the Millet alliance as less honorable and more cruel. Seeing Millet's solidarity with Cumhur-led provinces, HDP voters on average become more likely to perceive them as cruel, though after exposed to government propaganda, that negative effect dissipates.

Lastly, our interventions are insignificant regarding social distance with Millet supporters (see Figure A1). That may be the case because while trait measures are attitudinal and related to a respondent's prejudicial feelings, social distance measures capture discriminatory behaviour (Druckman and Levendusky, 2019, p. 119).

Does their co-partisan elite offering cross-partisan solidarity impact Millet voters' attitudes towards their outgroups? Largely no, with two notable exceptions (see Figure A2 and Figure A3). First, government propaganda is effective in dissuading Millet supporters from marrying their sons/daughters with Cumhur voters, though this may reflect dislike for partisanship (Klar et al., 2018). Second, their co-partisan elite's outreach to HDP-led provinces backfires and makes them more likely to think of HDP supporters as selfish and hypocritical.

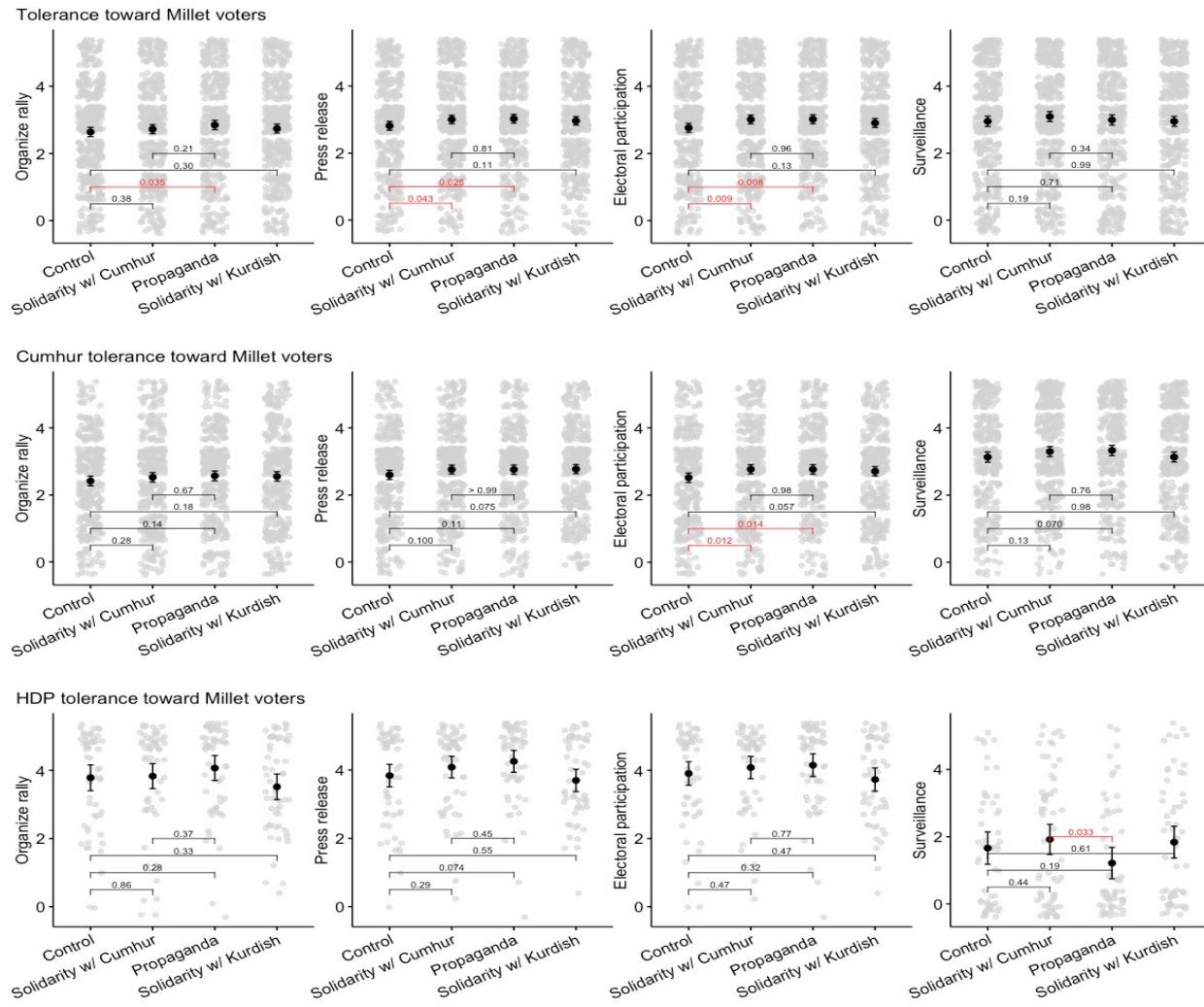


Figure 2: The bold-black lines illustrate marginal means of treatments for different measures of political tolerance toward Millet alliance voters with 95% CIs. The grey dots show the distribution of responses. Red lines show significant pairwise contrasts. The first pane shows the results for all groups with Millet voters as out-group. The second and third panes disaggregate it for pro-government and pro-Kurdish voter groups' attitudes towards Millet voters.

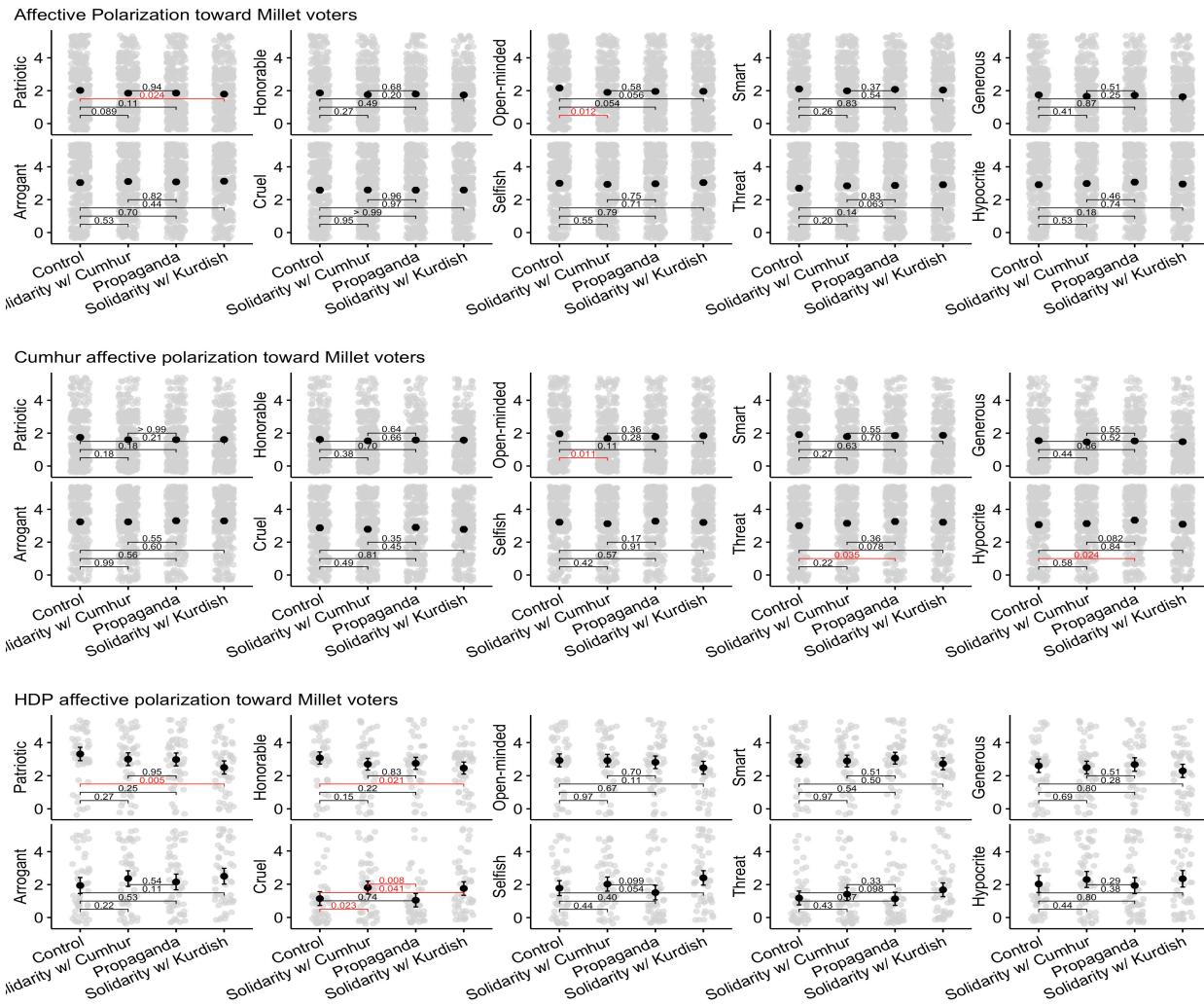


Figure 3: The bold-black lines illustrate marginal means of treatments for different measures of affective polarization toward Millet alliance voters with 95% CIs. The grey dots show the distribution of responses. Red lines show significant pairwise contrasts. The first pane shows the results for all groups with Millet voters as out-group. The second and third panes disaggregate it for pro-government and pro-Kurdish voter groups' attitudes towards Millet voters.

For robustness check, following our pre-registration, we run linear regressions with pre-treatment levels of polarization, personal history with natural disasters, level of education, age, and income as controls. The results support our initial findings. For a detailed discussion, see Appendix C. Robustness.

For main findings, we keep respondents who failed the manipulation check (Aronow et al., 2019; Varaine, 2023). However, for robustness check (Kane & Barabas, 2019), we run linear regressions after dropping respondents who failed the manipulation check (see Table C16 to C18). The results remain the same: Cross-partisan outreach increases political tolerance toward the Millet alliance, and government propaganda backfires. However, the stimuli are likely to be counterproductive when it comes to measures of affective polarization, though compared to full sample, less indicators are significant.

Lastly, we also run conditional equivalence tests to probe negligible effects. All insignificant findings fall outside ROPE and remain undecided.

6 Discussion

Climate disasters are on the rise. First, increasing global temperatures have significantly elevated the risk of extreme wildfire events (Brown et al., 2023; Parisien et al., 2023; Tyukavina et al., 2022). Especially in the last couple of years, from the West Coast to Mediterranean countries, wildfires have been devastating to such an extent that they have swallowed entire communities and neighbourhoods and dislodged thousands of people³⁶. Extreme rainfall is another such climate disaster that causes mudslides and flooding with a rising death toll, disproportionately impacting low-income communities (Rentschler et al., 2022). It will only get worse – the statistical projections show that the share of the world population exposed to floods will continue to climb (Tellman et al., 2021). The deadly ramifications are already visible to the naked eye: catastrophic torrential rain and flash floods have become daily news across the world³⁷. If their impact will be felt in the long run, then scholars and pundits should contemplate effective strategies to combat their adverse outcomes.

One such adverse outcome may be polarization. Our statistical analysis suggests that climate-related extreme events such as wildfires and floods significantly spur polarization. Why does it matter? Affective polarization is central to understanding the politics of democratic backsliding (Haggard & Kaufman, 2021) and democratic consolidation (Nugent, 2021). It is easier to convince people to violate someone else's rights if they do not like them. Under high levels of affective polarization, politicians may find it easier to get away with executive aggrandizement (Orhan, 2022). Voters tend to trade off democratic norms with partisan gains under intense partisanship and extreme policy preferences (Graham & Svolik, 2020)

³⁶Iati, Marisa, and Dylan Moriarty. 2021. ‘Anatomy of a wildfire: How the Dixie Fire became the largest blaze of a devastating summer.’ *The Washington Post*, September 17; Horowitz, Jason. 2023. ‘It’s Been a Hellish Summer for the Mediterranean. And It’s Not Over.’ *The New York Times*, July 29; CBC News. 2023. ‘2023 is now officially the most expensive, most destructive wildfire season on record in B.C.’ September 27.

³⁷AlJazeera. 2023. ‘Deadly floods in India’s Himalayas after lake bursts through major dam,’ October 6; AlJazeera. 2023. ‘Deadly flash floods add to misery in Afghanistan,’ July 24; Sadeed, Abdirahim, Nader Ibrahim, and Yassmin Mahmoud. 2023. ‘Libya floods: The flawed response that increased Derna death toll.’ *BBC*, October 9; Gorman, Steve, and Daniel Trotta. 2024. ‘Deadly California storm triggers flooding, mudslides, power outages,’ *Reuters*, February 6

³⁸.

As a potential remedy, we scrutinize the effectiveness of one potential intervention: cross-partisan post-disaster solidarity. We conducted an in-person experiment with Turkey – a country that experienced democratic backsliding and has the highest level of political polarization globally. Given the high level of intensity of government propaganda and extreme polarization, Turkey presents a hard test for depolarization tactics. We examine how respondents react to the cross-partisan distribution of municipal resources by the municipalities controlled by the main opposition party in the aftermath of major floods that hit the country's different regions. Our outreach treatments include not just cross-partisan distribution of material resources, but also civil political discourses by the opposition politicians. Our experimental design also takes into account the tri-partite nature of polarization in Turkey, given how the regime plays the terrorism card to fracture the pro-democracy opposition axis along ethnic lines.

As we hypothesized, cross-partisan outreach increases the political tolerance of the main opposition alliance's voters, and government propaganda looks ineffective or inadvertently contributes to an increase in political tolerance. However, contrary to our expectations, such cross-partisan disaster relief by the opposition alliance backfires when it comes to measures of affective polarization: exposed to treatment, respondents are more likely to think of opposition supporters in negative terms like hypocrite, and propaganda is effective among government supporters. Third, cross-partisan outreach by their co-partisan political elite does not mostly move the attitudes of the main opposition alliance's supporters, except outreach to pro-Kurdish party-controlled areas backfires.

Why is cross-partisan disaster relief aid counterproductive in terms of reducing affective polarization? Among government supporters, that can be attributed to the effectiveness of government framing of these aids. Among pro-Kurdish party supporters though, such disaster aid may not be perceived as contact on equal terms, and come across not as solidarity, but charity.

Finally, we fielded the experiment before the major earthquakes on February 6, 2023, that severely impacted 11 cities in southeastern Turkey, killed more than 50,000 people, and displaced more than 300 thousand³⁹. Though our paper focuses on the effects of climate-related extreme events, we would like to note that we do not know the impact of this earthquake, as it also tested the limits of state capacity. Its electoral impact is also open to debate. While the incumbent coalition mostly won the national elections in the provinces hit by the earthquake⁴⁰, very recently, the main opposition party, CHP, won the 2024 local elections in Adiyaman after 47 years, following the government's failure with post-disaster reconstruction⁴¹.

³⁸However, whether depolarization strategies increase support for democratic norms as a downstream consequence is an empirical question to be tested (Broockman et al., 2023; Voelkel et al., 2023).

³⁹Uludag, Alican. 2024. 'TÜİK'e göre deprem bölgesinde 308 bin kişi göç etti.' *Deutsche Welle*, February 6.

⁴⁰Euronews. 2023. 'Deprem bölgesinde Erdoğan ve Kılıçdaroğlu'nun oyları ikinci turda nasıl değişti?' May 29.

⁴¹Kamer, Hatice. 2024. 'Adiyaman'da CHP 47 yıl sonra nasıl seçim kazandı, seçmenler ne diyor?' *BBC News*, April 2.

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Appendix

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Appendix A. Experimental Intervention

A1 Treatment

A1.1 Pre-treatment

The survey questionnaire starts with a module on basic demographic information such as age, gender, education, income, ethnic identity, and religiosity. Following this module is a series of questions pertaining to partisan affiliation. These questions explore respondents' voting history in the previous election, which political party they feel most aligned with, and their placement on the left-right ideological scale. Before the treatment, we first measured their majoritarian views with a battery of questions. Then, we asked them to rate voters from different political parties using feeling thermometers. In addition, we inquired about their news consumption and previous encounters with natural disasters, followed by experimental treatment. You may access the full survey flow [here](#).

A1.2 Treatments

The vignettes are created based on real events and published news stories.

- The control condition presents respondents with information about the severity of floods that impacted multiple regions in Turkey and how resources from across the country were mobilized to help:

Last year, several cities in different regions were hit by major floods, including [a randomized list of regions]. As the death toll reached tens, hundreds of people had to be evacuated. The flash floods caused some buildings to collapse, smashed bridges, clogged streets, and cut power supplies. Several municipalities from neighboring cities sent crews and shared technical equipment to assist with rescue operations. Donations worth millions of TL poured from businesses and civil society organizations from across the country to contribute to disaster relief programs.

- In the **cross-partisan outreach to HDP** condition, the control description is followed by an anecdote about opposition municipalities' sizeable aid to an HDP stronghold based on actual news:

For instance, after a significant flooding in Van, Baskale, where HDP secured almost ¾ of the votes in the last elections, more than 70 houses were damaged, and 15 destroyed. For disaster relief, the Istanbul Metropolitan Municipality, the Ankara Metropolitan Municipality, and other opposition party district municipalities shipped trucks-load of relief packages and essential items.

- In the **cross-partisan outreach to Cumhur** condition, that control description is followed by an anecdote about significant donations from Ankara municipality to a Cumhur-led municipality and a thank you from another Cumhur figure to Istanbul Municipality for their generosity. Both real anecdotes signaled that the post-disaster aid is sizable and accompanied by collegial and non-partisan elite discourses:

For instance, following the significant flood in Kastamonu, a city where the Cumhur alliance got almost 80% of the votes in the last election, the Ankara Metropolitan Municipality sent a team consisting of 43 personnel along with 18 trucks, and 10 generators as well as other critical equipment to help with rescue operations. Ankara Mayor Mansur Yavas said: ‘We will heal our wounds together.’ Following disasters across the Black Sea region, the district municipalities’ calls for help do not go unanswered. For example, Rize, Cayeli mayor, pro-Cumhur alliance, announced that their request for help from the Istanbul Metropolitan Municipality (IBB) was met immediately. ‘We will help anyone who knocks on our door, regardless of their political orientation. We will not politically discriminate against any municipality in need’, said Istanbul Mayor Ekrem Imamoglu.

- In the **government counterpropaganda** condition, that cross-partisan outreach description is contradicted by skeptical pro-government media, who claim that the charity was political, and it was just ‘show business’:

However, A Haber reported that CHP MPs propagated lies and exaggerated death toll following the floods in the Western Black Sea region to ‘exploit people’s sufferings’ for political gain. After a different natural disaster, Yeni Akit criticized the Istanbul Municipality claiming that they are not really interested in helping out communities but just sending their people for the sake of appearances.

A2 Pre-Analysis Plan

This Pre-Analysis Plan was registered before data collection, accessible here.

A2.1 Hypotheses

1 Government supporters:

H 1a *Controlling for other factors, we hypothesize that government supporters, who are exposed to news about opposition municipalities’ significant aid to pro-government districts in the aftermath of a natural disaster, on average, will show a more favorable attitude towards opposition party supporters.*

H 1b *This positive impact will be mitigated by the government’s propaganda against the opposition party’s disaster relief programs but will remain significant.*

H 1c *Pro-government voters, who are exposed to news about opposition municipalities’ significant aid in predominantly Kurdish regions following a natural disaster, on average, will show a less favorable attitude towards opposition party supporters.*

2 Opposition alliance supporters:

H 2a *Controlling for other factors, we hypothesize that opposition party supporters, who are exposed to news about opposition municipalities’ significant aid to pro-government districts in the aftermath of a natural disaster, on average, will show a more favorable attitude towards government supporters.*

H 2b This positive impact will be mitigated by the government's propaganda against the opposition party's disaster relief programs but will remain significant.

3 Pro-Kurdish party voters:

H 3a Pro-Kurdish party voters, who are exposed to news about opposition municipalities' significant aid in predominantly Kurdish regions following a natural disaster, on average, will show a more favorable attitude towards opposition party supporters.

A2.2 Design Plan

Study type ■ Experiment - A researcher randomly assigns treatments to study subjects, this includes field or lab experiments. This is also known as an intervention experiment and includes randomized controlled trials.

Blinding ■ For studies that involve human subjects, they will not know the treatment group to which they have been assigned.

Study design ■ In the first between-subject experimental design, we aim to measure the impact of (1) significant cross-partisan disaster relief aid by the opposition party municipalities in pro-government or pro-Kurdish party districts post-disaster, and 2) the effect of government counter-propaganda against such disaster relief programs on respondent's level of affective polarization.

Each respondent will be assigned to either a control group or one of three treatment conditions. (1) The control condition presents a non-fictitious narrative that indicates how disaster aid was poured into several cities after natural disasters with no partisan signaling or reference to any actor's name. (2) The first treatment consists of two layers: In addition to the control narrative, an extra non-fictitious text elaborates how specific opposition municipalities offered significant financial assistance to pro-government cities post-disaster by adopting a cross-partisan discourse. The text signals the opposition political elite's willingness to communicate across the aisle. (3) The second treatment consists of three layers: In addition to the control AND first treatment narrative, the added text includes a pro-government news reporting that tries to discredit the opposition party's disaster relief programs. (4) The third treatment presents a non-fictitious narrative that includes the control narrative AND an added text that shows how opposition municipalities offered help to pro-Kurdish party districts post-disasters. There are two treatments for pro-government and pro-Kurdish party districts because polarization is not bi-partisan in Turkey. In addition to the high level of polarization between pro-Cumhur (incumbent alliance) and pro-Millet (main opposition alliance) voters, pro-HDP voters are cited as the "most distant" group in nationally-representative surveys.

Randomization ■ We will use block randomization, where participants will be stratified based on their party identification (that is, whether they are supporters of the incumbent electoral alliance, the main opposition alliance, or the pro-Kurdish party), and then randomly assigned to treatment conditions.

A2.3 Sampling Plan

Existing Data ■ Registration prior to the creation of data

Data collection procedures ■ Participants will be recruited through a reputable polling company based in Turkey: Capraz. There will be no payment for participation. Participants must be at least 18 years old and Turkish citizens.

Sample size ■ Our target sample size is 3000 participants to capture treatment effects for at least two interventions for the first module. We will attempt to recruit up to 4000, assuming an average non-response rate given the Turkish context.

Sample size rationale ■ Please find the power analysis and the R code that generated it attached.

1. For both experimental modules, we used block randomization for two electoral alliances (Cumhuriyet, Millet), and HDP, based on their vote share in the current polls.
2. Power analysis is calculated for an anticipated ATE of 2.25 for the first experiment and an ATE of 1.5 for the second.
3. In the first experiment, we expect government counter-propaganda would not be as effective, that's why its expected ATE is smaller than the first treatment's.

Measured variables ■ Please find the survey instrument attached. For the first experimental design, pre-treatment, we will ask whether they or their close kin experienced a natural disaster before. We will also ask a thermometer question of how a respondent feels toward different political parties' supporters on a scale of 0 to 100 to measure pre-treatment polarization. Post-treatment, we will measure affective polarization with a battery of questions. One variable measures respondents' political tolerance toward their most distant groups with a question that asks about their willingness to tolerate others' political activities. Another variable assesses to what extent a respondent is willing to socially engage with their most distant group, i.e. doing business with them, having them as their neighbor, etc. The third variable examines to what extent the respondent attributes positive or negative characteristics to their most distant group such as being honorable, patriotic, open-minded, smart, etc.

A2.4 Analysis Plan

Statistical models ■ We will run pairwise contrasts for each partisan group's average. We will also run multiple regressions with controls that include 1) pre-treatment level of polarization, 2) whether a respondent experienced a disaster before, 3) and other covariates: level of income, age cohort, and level of education.

Manipulation checks ■ For the first experimental design, we ask a relatively detailed question about the treatment text.

A3 Other Results

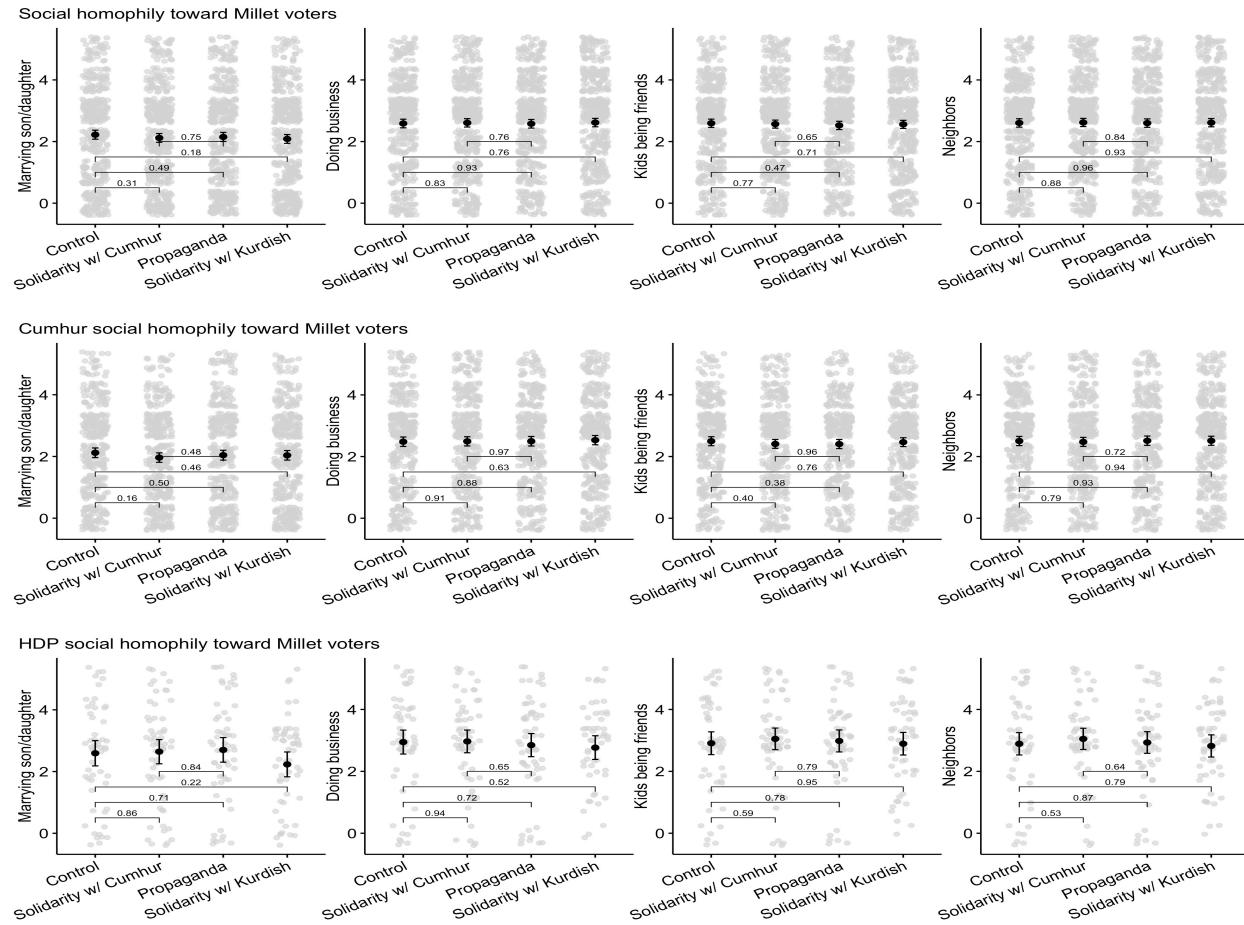


Figure A1: Marginal means of treatments for social distance with Millet alliance voters with 95% CIs.

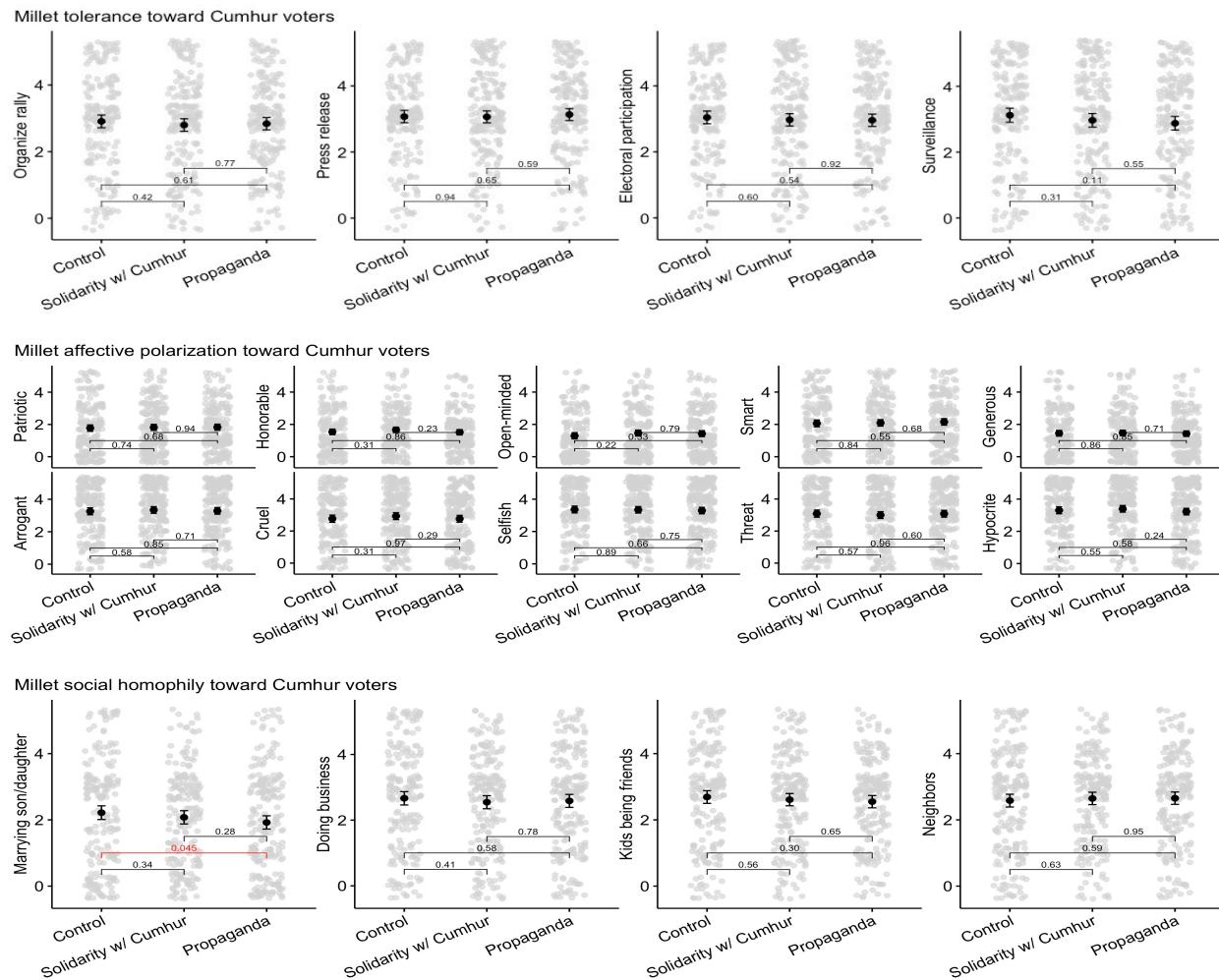


Figure A2: Marginal means of treatments for political tolerance, social distance, and affective polarization among Millet alliance voters towards Cumhur supporters with 95% CIs.

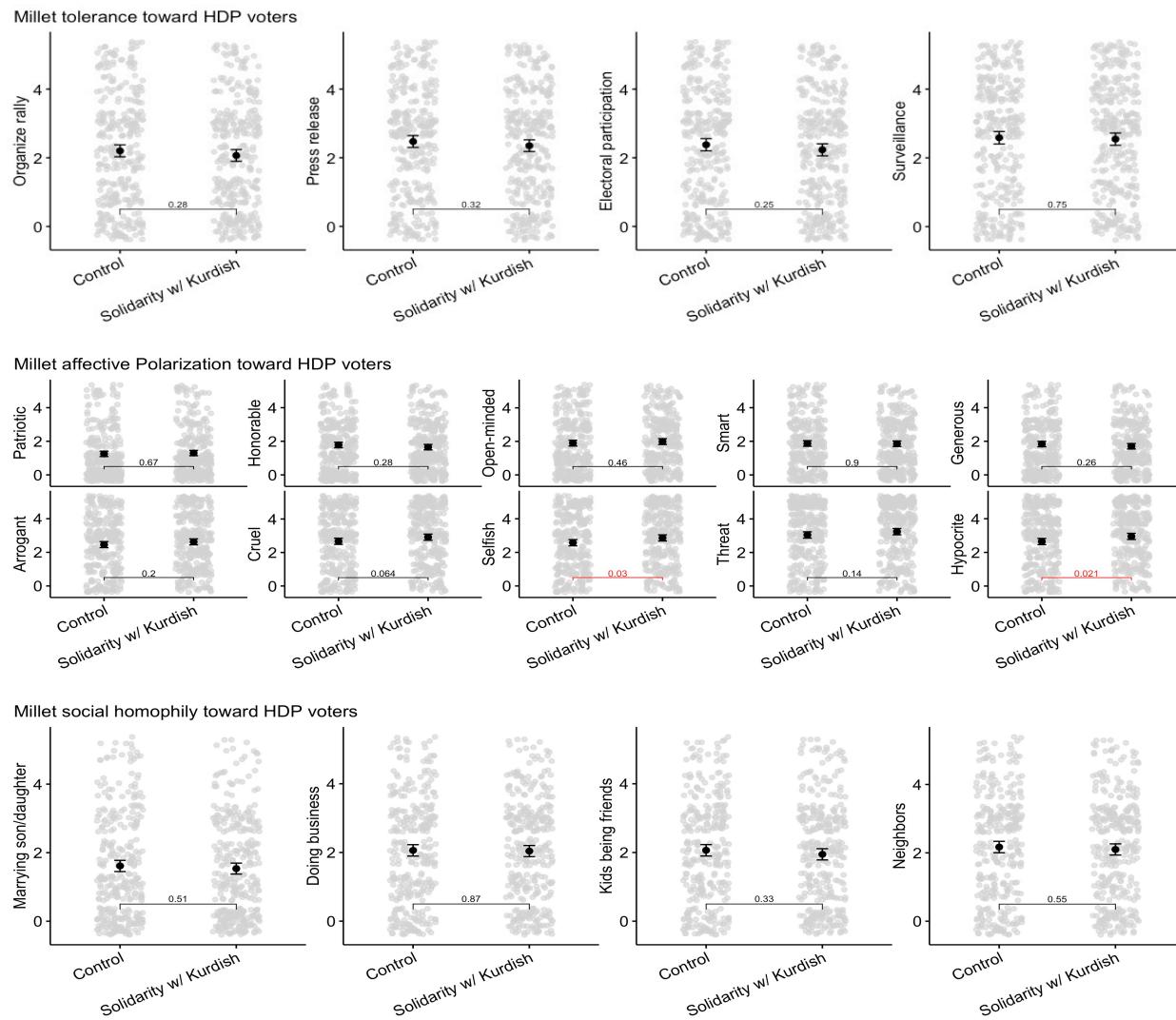


Figure A3: Marginal means of treatments for political tolerance, social distance, and affective polarization among Millet alliance voters towards HDP supporters with 95% CIs.

Appendix B. Descriptive Statistics

B1 Covariate Balance

Characteristic	Control	Cumhur Treat.	Propaganda	HDP Treat.
	N = 373	N = 389	N = 361	N = 385
Gender				
Female	186 (50%)	192 (49%)	173 (48%)	194 (50%)
Male	187 (50%)	197 (51%)	188 (52%)	191 (50%)
Education				
1	116 (31%)	125 (32%)	134 (37%)	136 (35%)
2	194 (52%)	189 (49%)	171 (47%)	178 (46%)
3	63 (17%)	75 (19%)	56 (16%)	71 (18%)
Income				
	5.29	5.33	5.29	5.30
Ideology				
	8.29	8.10	8.28	8.20
Religiosity				
2	4 (1.1%)	7 (1.8%)	7 (1.9%)	1 (0.3%)
3	62 (17%)	46 (12%)	55 (15%)	65 (17%)
4	307 (82%)	336 (86%)	299 (83%)	319 (83%)
Age				
	41.60	42.19	43.12	41.72

Table B1: Covariate balance for Cumhur block. n (%); Mean

Characteristic	Control	Cumhur Treat.	Propaganda	HDP Treat.
	N = 520	N = 219	N = 224	N = 334
Gender				
Female	264 (51%)	121 (55%)	117 (52%)	174 (52%)
Male	256 (49%)	98 (45%)	107 (48%)	160 (48%)
Education				
1	109 (21%)	40 (18%)	42 (19%)	76 (23%)
2	268 (52%)	123 (56%)	111 (50%)	166 (50%)
3	143 (28%)	56 (26%)	71 (32%)	92 (28%)
Income	5.02	4.87	4.92	4.84
Ideology	3.36	2.94	3.43	3.25
Religiosity				
2	65 (13%)	27 (12%)	22 (9.8%)	36 (11%)
3	236 (45%)	97 (44%)	109 (49%)	169 (51%)
4	219 (42%)	95 (43%)	93 (42%)	129 (39%)
Age	38.04	39.78	37.22	39.49

Table B2: Covariate balance for Millet block. n (%); Mean

Characteristic	Control	Cumhur Treat.	Propaganda	HDP Treat.
	N = 52	N = 53	N = 57	N = 51
Gender				
Female	24 (46%)	18 (34%)	25 (44%)	19 (37%)
Male	28 (54%)	35 (66%)	32 (56%)	32 (63%)
Education				
1	17 (33%)	22 (42%)	18 (32%)	15 (29%)
2	30 (58%)	26 (49%)	32 (56%)	28 (55%)
3	5 (9.6%)	5 (9.4%)	7 (12%)	8 (16%)
Income	2.75	2.94	3.04	3.78
Ideology	1.52	1.67	1.89	1.55
Religiosity				
2	4 (7.7%)	1 (1.9%)	4 (7.0%)	5 (9.8%)
3	12 (23%)	12 (23%)	21 (37%)	19 (37%)
4	36 (69%)	40 (75%)	32 (56%)	27 (53%)
Age	35.87	37.49	35.65	38.96

Table B3: Covariate balance for HDP block. n (%); Mean

B2 Descriptive Statistics

Characteristic	N = 3,208 ¹
Treatment	
Control	1,001 (31%)
Cumhur Treat.	708 (22%)
Propaganda	679 (21%)
HDP Treat.	820 (26%)
Gender	
Female	1,587 (49%)
Male	1,621 (51%)
Education	
1	885 (28%)
2	1,615 (50%)
3	708 (22%)
Income	
	4.92
Ideology	
	5.52
Religiosity	
1	71 (2.2%)
2	191 (6.0%)
3	934 (29%)
4	2,003 (63%)
Age	
	39.95

Table B4: Sample descriptive statistics. n (%); Mean

Appendix C. Robustness

The results of linear regressions suggest that as for political tolerance toward Millet alliance voters as out-group (see Table C7), government counter-propanda backfires, and significantly increases respondents' average political tolerance of Millet's protest activities by 0.21. The stimuli are also effective in terms of increasing political tolerance of press release by Millet alliance and their electoral participation, and government propaganda is ineffective. Among Cumhur voters (see Table C1), cross-partisan outreach to both Cumhur-led and HDP-controlled provinces increases their political tolerance of Millet's electoral participation, and government propaganda is ineffective. Solidarity treatments also increase their toleration of press release by Millet alliance, though significant at 90% confidence interval. Among HDP voters (see Table C4), stimuli are insignificant for political tolerance of Millet voters, controlled for pre-treatment level of polarization.

In terms of affective polarization toward Millet voters, our stimuli are counter-productive (see Table C9). Cross-partisan outreach treatments significantly decrease respondents' likelihood to perceive Millet alliance as patriotic and open-minded. The stimuli also decrease the average perception of Millet as honorable, though significant only at $p=0.1$. Similarly, the treatments exacerbate the respondent's threat perception of the Millet alliance. Among Cumhur voters (see Table C3), cross-partisan outreach to Cumhur-led provinces negatively impacts the average perception of Millet as open-minded. Government propaganda is also effective in swaying Cumhur voters' opinion of the opposition as a threat and hypocrite. Among HDP voters (see Table C6), solidarity with Cumhur-led provinces makes them more likely to think of Millet voters as cruel, and less likely to conceive as honorable. Cross-partisan outreach to HDP-controlled provinces also backfires: The average perception of Millet as arrogant, cruel, dishonorable, and selfish significantly increases, though some significant only at $p=0.1$. Lastly, our stimuli are insignificant for social distance with Millet alliance voters across the board (see Table C8).

How about Millet voters? The linear regression results indicate that their co-partisan elite's cross-partisan outreach to HDP-led provinces decreases their political tolerance of HDP's protest activities and electoral participation, though significantly at $p=0.1$ (Table C10). Such solidarity with HDP-controlled provinces also backfires, and significantly exacerbates Millet voters' average perception of HDP voters as cruel, selfish, threat, and hypocrite (Table C12). As for their attitudes toward Cumhur voters, our stimuli are largely insignificant, except that cross-partisan outreach to Cumhur-led provinces positively impacts their perception of Cumhur voters as honorable and open-minded (Table C15), though significant only at $p=0.1$. The stimuli are mostly insignificant for social distance measures.

C1 Cumhur's attitudes toward Millet voters

Table C1: Linear regressions for Cumhur's political tolerance.

	Organize rally (1)	Press release (2)	Electoral participation (3)	Surveillance (4)
Treatment: Solidarity w/ Cumhur	0.11 (0.10)	0.17* (0.10)	0.26*** (0.10)	0.17 (0.11)
Treatment: Propaganda	0.17* (0.10)	0.16 (0.10)	0.25** (0.10)	0.17 (0.11)
Treatment: Solidarity w/ HDP	0.15 (0.10)	0.18* (0.10)	0.20** (0.10)	-0.005 (0.11)
Pre-treatment polarization	0.01*** (0.002)	0.01*** (0.002)	0.01*** (0.002)	-0.01*** (0.002)
Disaster experience	-0.01 (0.07)	0.02 (0.07)	-0.03 (0.07)	0.003 (0.08)
Level of income	-0.10*** (0.02)	-0.13*** (0.02)	-0.11*** (0.02)	-0.004 (0.02)
Age	-0.002 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)
Education	0.03 (0.06)	-0.06 (0.06)	-0.13** (0.06)	-0.15** (0.06)
Constant	2.87*** (0.23)	3.26*** (0.22)	3.25*** (0.22)	3.52*** (0.24)
Observations	1,472	1,478	1,476	1,475
Adjusted R ²	0.03	0.04	0.04	0.03
F Statistic	6.44*** (df = 8; 1463)	9.15*** (df = 8; 1469)	8.24*** (df = 8; 1467)	6.10*** (df = 8; 1466)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C2: Linear regressions for Cumhur's social distance.

	Marrying son/daughter (1)	Doing business (2)	Kids being friends (3)	Neighbors (4)
Treatment: Solidarity w/ Cumhur	-0.15 (0.11)	0.03 (0.11)	-0.08 (0.10)	-0.01 (0.11)
Treatment: Propaganda	-0.06 (0.11)	0.03 (0.11)	-0.08 (0.10)	0.02 (0.11)
Treatment: Solidarity w/ HDP	-0.07 (0.11)	0.08 (0.11)	-0.003 (0.10)	0.04 (0.11)
Pre-treatment polarization	0.01*** (0.002)	0.01*** (0.002)	0.01*** (0.002)	0.005** (0.002)
Disaster experience	-0.12 (0.08)	-0.18** (0.08)	-0.22*** (0.07)	-0.29*** (0.07)
Level of income	-0.08*** (0.02)	-0.15*** (0.02)	-0.15*** (0.02)	-0.15*** (0.02)
Age	-0.002 (0.003)	-0.002 (0.003)	-0.001 (0.003)	-0.001 (0.003)
Education	0.05 (0.07)	0.09 (0.06)	0.08 (0.06)	0.07 (0.06)
Constant	2.36*** (0.25)	3.15*** (0.24)	3.13*** (0.23)	3.23*** (0.24)
Observations	1,469	1,478	1,481	1,479
Adjusted R ²	0.04	0.04	0.04	0.05
F Statistic	8.17*** (df = 8; 1460)	8.60*** (df = 8; 1469)	9.03*** (df = 8; 1472)	9.97*** (df = 8; 1470)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C3: Linear regressions for Cumhur's affective polarization.

	Patriotic	Honorable	Open-minded	Smart	Generous	Arrogant	Cruel	Selfish	Threat	Hypocrite
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treatment: Solidarity w/ Cumhur	-0.14 (0.10)	-0.10 (0.10)	-0.27** (0.11)	-0.11 (0.11)	-0.07 (0.10)	0.005 (0.11)	-0.10 (0.12)	-0.10 (0.11)	0.13 (0.12)	0.07 (0.12)
Treatment: Propaganda	-0.13 (0.11)	-0.04 (0.10)	-0.19* (0.11)	-0.06 (0.11)	-0.01 (0.10)	0.07 (0.11)	0.03 (0.12)	0.04 (0.12)	0.25** (0.12)	0.27** (0.12)
Treatment: Solidarity w/ HDP	-0.13 (0.10)	-0.06 (0.10)	-0.12 (0.11)	-0.04 (0.11)	-0.06 (0.10)	0.06 (0.11)	-0.08 (0.12)	-0.02 (0.11)	0.20* (0.11)	0.03 (0.12)
Pre-treatment polarization	0.01*** (0.002)	0.01*** (0.002)	0.003 (0.002)	0.01*** (0.002)	0.01*** (0.002)	-0.01*** (0.002)	-0.003 (0.002)	-0.01*** (0.002)	-0.01*** (0.002)	-0.01*** (0.002)
Disaster experience	0.20*** (0.07)	0.22*** (0.07)	-0.01 (0.08)	0.05 (0.08)	0.01 (0.07)	0.09 (0.08)	-0.10 (0.08)	0.04 (0.08)	-0.004 (0.08)	-0.04 (0.08)
Level of income	-0.07*** (0.02)	-0.04** (0.02)	-0.10*** (0.02)	-0.09*** (0.02)	-0.04** (0.02)	0.05** (0.02)	0.12*** (0.02)	0.02 (0.02)	0.17*** (0.02)	0.12*** (0.02)
Age	-0.01** (0.003)	-0.01* (0.003)	-0.004 (0.003)	-0.01* (0.003)	-0.005 (0.003)	0.01 (0.003)	0.01 (0.004)	0.005 (0.003)	0.004 (0.003)	0.005 (0.004)
Education	-0.05 (0.06)	-0.09 (0.06)	-0.09 (0.07)	-0.14** (0.07)	-0.04 (0.06)	0.11 (0.07)	0.08 (0.07)	-0.002 (0.07)	-0.04 (0.07)	0.03 (0.07)
Constant	2.36*** (0.23)	2.04*** (0.23)	2.79*** (0.25)	2.79*** (0.24)	1.90*** (0.23)	2.66*** (0.25)	1.91*** (0.27)	2.98*** (0.26)	2.08*** (0.26)	2.30*** (0.26)
Observations	1,464	1,450	1,464	1,467	1,451	1,467	1,453	1,465	1,467	1,455
Adjusted R ²	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.05	0.03
F Statistic	5.26***	5.46***	4.91***	4.77***	4.63***	3.58***	4.99***	2.69***	10.07***	6.36***

Note:

*p<0.1; **p<0.05; ***p<0.01

C2 HDP's attitudes toward Millet

Table C4: Linear regressions for HDP's political tolerance.

	Organize rally (1)	Press release (2)	Electoral participation (3)	Surveillance (4)
Treatment: Solidarity w/ Cumhur	0.005 (0.26)	0.19 (0.23)	0.13 (0.24)	0.22 (0.33)
Treatment: Propaganda	0.26 (0.26)	0.37 (0.23)	0.22 (0.24)	-0.42 (0.33)
Treatment: Solidarity w/ HDP	-0.17 (0.27)	-0.05 (0.24)	-0.05 (0.25)	-0.09 (0.34)
Pre-treatment polarization	0.01*** (0.003)	0.01*** (0.003)	0.01*** (0.003)	-0.01* (0.004)
Disaster experience	-0.03 (0.17)	0.02 (0.15)	0.02 (0.16)	0.43* (0.22)
Level of income	-0.05 (0.04)	-0.05 (0.04)	-0.06* (0.04)	0.18*** (0.05)
Age	0.001 (0.01)	-0.004 (0.01)	-0.003 (0.01)	0.01 (0.01)
Education	0.32** (0.16)	0.16 (0.14)	0.18 (0.14)	-0.16 (0.19)
Constant	2.83*** (0.51)	3.46*** (0.45)	3.47*** (0.47)	1.38** (0.65)
Observations	227	228	229	223
Adjusted R ²	0.07	0.06	0.05	0.07
F Statistic	3.08*** (df = 8; 218)	2.71*** (df = 8; 219)	2.55** (df = 8; 220)	3.14*** (df = 8; 214)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C5: Linear regressions for HDP's social distance.

	Marrying son/daughter (1)	Doing business (2)	Kids being friends (3)	Neighbors (4)
Treatment: Solidarity w/ Cumhur	0.04 (0.29)	0.02 (0.28)	0.13 (0.26)	0.12 (0.26)
Treatment: Propaganda	0.09 (0.29)	-0.09 (0.28)	0.07 (0.26)	0.03 (0.26)
Treatment: Solidarity w/ HDP	-0.45 (0.30)	-0.24 (0.29)	-0.07 (0.27)	-0.13 (0.27)
Pre-treatment polarization	0.003 (0.003)	0.003 (0.003)	-0.001 (0.003)	0.003 (0.003)
Disaster experience	-0.07 (0.19)	0.07 (0.18)	0.16 (0.18)	0.14 (0.17)
Level of income	0.04 (0.05)	0.05 (0.04)	0.02 (0.04)	0.03 (0.04)
Age	0.01 (0.01)	0.01 (0.01)	-0.001 (0.01)	0.01 (0.01)
Education	0.26 (0.17)	0.18 (0.16)	0.10 (0.16)	0.15 (0.15)
Constant	1.62*** (0.57)	2.05*** (0.54)	2.71*** (0.52)	2.10*** (0.51)
Observations	224	229	229	229
Adjusted R ²	0.001	-0.01	-0.03	-0.01
F Statistic	1.04 (df = 8; 215)	0.65 (df = 8; 220)	0.30 (df = 8; 220)	0.65 (df = 8; 220)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C6: Linear regressions for HDP's affective polarization.

	Patriotic	Honorable	Open-minded	Smart	Generous	Arrogant	Cruel	Selfish	Threat	Hypocrite
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treatment: Solidarity w/ Cumhur	-0.38 (0.28)	-0.50** (0.24)	-0.11 (0.27)	-0.10 (0.25)	-0.21 (0.28)	0.47 (0.34)	0.74** (0.29)	0.34 (0.31)	0.27 (0.29)	0.33 (0.36)
Treatment: Propaganda	-0.36 (0.27)	-0.37 (0.24)	-0.19 (0.27)	0.12 (0.25)	0.05 (0.28)	0.23 (0.34)	-0.04 (0.29)	-0.21 (0.31)	-0.02 (0.28)	-0.07 (0.36)
Treatment: Solidarity w/ HDP	-0.66** (0.28)	-0.50** (0.25)	-0.35 (0.28)	-0.07 (0.26)	-0.14 (0.29)	0.58* (0.35)	0.56* (0.30)	0.64** (0.32)	0.33 (0.30)	0.37 (0.38)
Pre-treatment polarization	0.02*** (0.003)	0.02*** (0.003)	0.01*** (0.003)	0.01*** (0.003)	0.02*** (0.003)	-0.01*** (0.004)	-0.01*** (0.003)	-0.01*** (0.004)	-0.01*** (0.003)	-0.01* (0.004)
Disaster experience	-0.01 (0.18)	0.07 (0.16)	0.01 (0.18)	0.06 (0.17)	0.001 (0.18)	0.03 (0.23)	-0.02 (0.19)	-0.07 (0.20)	0.14 (0.19)	-0.18 (0.24)
Level of income	-0.06 (0.04)	0.02 (0.04)	-0.05 (0.04)	-0.02 (0.04)	-0.02 (0.04)	-0.10* (0.05)	0.01 (0.04)	-0.05 (0.05)	0.07 (0.04)	-0.11* (0.06)
Age	0.01 (0.01)	0.005 (0.01)	0.01 (0.01)	0.01 (0.01)	0.001 (0.01)	0.01 (0.01)	-0.001 (0.01)	0.001 (0.01)	0.002 (0.01)	0.005 (0.01)
Education	0.31* (0.16)	0.11 (0.14)	0.19 (0.16)	0.11 (0.15)	-0.07 (0.17)	-0.21 (0.20)	-0.33* (0.17)	-0.20 (0.18)	-0.30* (0.17)	-0.09 (0.21)
Constant	1.78*** (0.55)	1.84*** (0.47)	1.93*** (0.53)	1.90*** (0.50)	2.08*** (0.55)	2.80*** (0.67)	2.20*** (0.56)	2.87*** (0.61)	2.03*** (0.56)	2.70*** (0.70)
Observations	225	224	227	226	218	220	218	220	225	215
Adjusted R ²	0.12	0.17	0.06	0.06	0.08	0.06	0.10	0.10	0.09	0.02
F Statistic	4.82***	6.84***	2.96***	2.90***	3.41***	2.67***	3.98***	3.97***	3.81***	1.42

Note:

*p<0.1; **p<0.05; ***p<0.01

C3 Attitudes toward Millet alliance

Table C7: Linear regressions for political tolerance towards Millet as outgroup.

	Organize rally (1)	Press release (2)	Electoral participation (3)	Surveillance (4)
Treatment: Solidarity w/ Cumhur	0.07 (0.09)	0.17* (0.09)	0.23** (0.09)	0.17 (0.10)
Treatment: Propaganda	0.21** (0.10)	0.20** (0.09)	0.25*** (0.09)	0.04 (0.11)
Treatment: Solidarity w/ HDP	0.13 (0.09)	0.17* (0.09)	0.17* (0.09)	-0.02 (0.10)
Pre-treatment polarization	0.01*** (0.001)	0.01*** (0.001)	0.01*** (0.001)	-0.02*** (0.002)
Disaster experience	0.02 (0.06)	0.07 (0.06)	0.01 (0.06)	0.06 (0.07)
Level of income	-0.13*** (0.02)	-0.16*** (0.02)	-0.15*** (0.02)	0.09*** (0.02)
Age	-0.004 (0.003)	-0.001 (0.003)	-0.002 (0.003)	0.01* (0.003)
Education	0.06 (0.06)	-0.001 (0.05)	-0.06 (0.05)	-0.13** (0.06)
Constant	3.08*** (0.20)	3.42*** (0.19)	3.46*** (0.20)	2.76*** (0.22)
Observations	1,805	1,813	1,812	1,803
Adjusted R ²	0.10	0.11	0.10	0.08
F Statistic	26.20*** (df = 8; 1796)	28.46*** (df = 8; 1804)	26.94*** (df = 8; 1803)	20.79*** (df = 8; 1794)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C8: Linear regressions for social distance with Millet as outgroup.

	Marrying son/daughter (1)	Doing business (2)	Kids being friends (3)	Neighbors (4)
Treatment: Solidarity w/ Cumhur	-0.11 (0.10)	0.03 (0.10)	-0.03 (0.09)	0.02 (0.10)
Treatment: Propaganda	-0.08 (0.10)	-0.002 (0.10)	-0.07 (0.10)	-0.01 (0.10)
Treatment: Solidarity w/ HDP	-0.12 (0.10)	0.06 (0.10)	-0.005 (0.09)	0.04 (0.10)
Pre-treatment polarization	0.01*** (0.002)	0.005*** (0.001)	0.005*** (0.001)	0.01*** (0.001)
Disaster experience	-0.12* (0.07)	-0.15** (0.07)	-0.15** (0.06)	-0.20*** (0.07)
Level of income	-0.06*** (0.02)	-0.11*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)
Age	-0.001 (0.003)	0.0001 (0.003)	-0.001 (0.003)	-0.0000 (0.003)
Education	0.05 (0.06)	0.10* (0.06)	0.08 (0.06)	0.09 (0.06)
Constant	2.31*** (0.22)	2.90*** (0.21)	3.01*** (0.20)	2.98*** (0.21)
Observations	1,797	1,814	1,818	1,815
Adjusted R ²	0.04	0.03	0.04	0.04
F Statistic	10.26*** (df = 8; 1788)	8.61*** (df = 8; 1805)	9.73*** (df = 8; 1809)	10.28*** (df = 8; 1806)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C9: Linear regressions for affective polarization toward Millet voters as outgroup.

	Patriotic	Honorable	Open-minded	Smart	Generous	Arrogant	Cruel	Selfish	Threat	Hypocrite
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treatment: Solidarity w/ Cumhur	-0.21** (0.10)	-0.15* (0.09)	-0.29*** (0.10)	-0.14 (0.10)	-0.10 (0.09)	0.09 (0.11)	0.03 (0.11)	-0.05 (0.11)	0.18* (0.11)	0.09 (0.11)
Treatment: Propaganda	-0.17* (0.10)	-0.09 (0.09)	-0.23** (0.10)	-0.05 (0.10)	-0.02 (0.09)	0.05 (0.11)	0.02 (0.11)	-0.03 (0.11)	0.19* (0.11)	0.17 (0.11)
Treatment: Solidarity w/ HDP	-0.21** (0.10)	-0.12 (0.09)	-0.18* (0.10)	-0.04 (0.10)	-0.09 (0.09)	0.07 (0.11)	-0.01 (0.11)	0.02 (0.11)	0.18* (0.11)	0.02 (0.11)
Pre-treatment polarization	0.02*** (0.001)	0.02*** (0.001)	0.01*** (0.001)	0.01*** (0.001)	0.01*** (0.001)	-0.01*** (0.002)	-0.01*** (0.002)	-0.01*** (0.002)	-0.02*** (0.002)	-0.01*** (0.002)
‡ Disaster experience	0.22*** (0.07)	0.26*** (0.06)	0.07 (0.07)	0.13* (0.07)	0.08 (0.06)	0.05 (0.07)	-0.14* (0.07)	-0.04 (0.07)	-0.07 (0.07)	-0.10 (0.08)
Level of income	-0.12*** (0.02)	-0.07*** (0.02)	-0.13*** (0.02)	-0.12*** (0.02)	-0.08*** (0.02)	0.06*** (0.02)	0.16*** (0.02)	0.07*** (0.02)	0.22*** (0.02)	0.11*** (0.02)
Age	-0.01** (0.003)	-0.004 (0.003)	-0.003 (0.003)	-0.005 (0.003)	-0.004 (0.003)	0.01** (0.003)	0.01** (0.003)	0.01** (0.003)	0.01** (0.003)	0.01* (0.003)
Education	0.01 (0.06)	-0.04 (0.05)	-0.03 (0.06)	-0.07 (0.06)	-0.01 (0.06)	0.06 (0.06)	0.02 (0.06)	-0.02 (0.06)	-0.09 (0.06)	0.02 (0.07)
Constant	2.50*** (0.21)	2.11*** (0.20)	2.79*** (0.22)	2.78*** (0.21)	2.05*** (0.20)	2.54*** (0.23)	1.61*** (0.23)	2.63*** (0.23)	1.74*** (0.23)	2.27*** (0.24)
Observations	1,792	1,775	1,795	1,797	1,769	1,791	1,773	1,786	1,794	1,771
Adjusted R ²	0.11	0.10	0.06	0.07	0.08	0.05	0.08	0.06	0.14	0.05
F Statistic	27.65***	26.96***	15.93***	18.69***	20.88***	13.18***	19.32***	15.80***	36.79***	11.85***

Note:

*p<0.1; **p<0.05; ***p<0.01

C4 Millet voters' attitude toward HDP

Table C10: Linear regressions for Millet's political tolerance toward HDP voters as outgroup.

	Organize rally (1)	Press release (2)	Electoral participation (3)	Surveillance (4)
Treatment: Solidarity w/ HDP	-0.21* (0.11)	-0.18 (0.11)	-0.22* (0.12)	-0.04 (0.13)
Pre-treatment polarization	0.03*** (0.002)	0.02*** (0.002)	0.03*** (0.002)	-0.01*** (0.002)
Disaster experience	-0.03 (0.11)	-0.05 (0.12)	-0.04 (0.12)	0.09 (0.13)
Level of income	-0.14*** (0.03)	-0.12*** (0.03)	-0.13*** (0.03)	-0.01 (0.03)
Age	0.01* (0.004)	0.01 (0.004)	0.01* (0.005)	-0.01** (0.01)
Education	0.28*** (0.09)	0.26*** (0.09)	0.29*** (0.09)	0.01 (0.10)
Constant	1.54*** (0.31)	1.91*** (0.32)	1.70*** (0.32)	3.13*** (0.36)
Observations	668	669	670	664
Adjusted R ²	0.22	0.16	0.19	0.01
F Statistic	31.94*** (df = 6; 661)	22.04*** (df = 6; 662)	27.76*** (df = 6; 663)	2.26** (df = 6; 657)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C11: Linear regressions for Millet's social distance with HDP voters as outgroup.

	Marrying son/daughter (1)	Doing business (2)	Kids being friends (3)	Neighbors (4)
Treatment: Solidarity w/ HDP	-0.10 (0.11)	-0.07 (0.11)	-0.17 (0.11)	-0.13 (0.11)
Pre-treatment polarization	0.02*** (0.002)	0.02*** (0.002)	0.02*** (0.002)	0.02*** (0.002)
Disaster experience	0.09 (0.11)	0.02 (0.11)	0.04 (0.11)	0.15 (0.11)
Level of income	-0.06** (0.03)	-0.09*** (0.03)	-0.11*** (0.03)	-0.13*** (0.03)
Age	0.005 (0.004)	0.01** (0.004)	0.01** (0.004)	0.01** (0.004)
Education	0.08 (0.08)	0.20** (0.09)	0.25*** (0.09)	0.30*** (0.09)
Constant	1.08*** (0.29)	1.39*** (0.31)	1.36*** (0.31)	1.45*** (0.31)
Observations	657	664	660	663
Adjusted R ²	0.19	0.13	0.13	0.16
F Statistic	26.21*** (df = 6; 650)	16.81*** (df = 6; 657)	18.08*** (df = 6; 653)	21.43*** (df = 6; 656)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C12: Linear regressions for Millet's affective polarization toward HDP voters as outgroup.

	Patriotic (1)	Honorable (2)	Open-minded (3)	Smart (4)	Generous (5)	Arrogant (6)	Cruel (7)	Selfish (8)	Threat (9)	Hypocrite (10)
Treatment: Solidarity w/ HDP	0.03 (0.10)	-0.14 (0.10)	0.05 (0.12)	-0.02 (0.11)	-0.15 (0.11)	0.20 (0.12)	0.28** (0.12)	0.31** (0.13)	0.24** (0.12)	0.35*** (0.13)
Pre-treatment polarization	0.03*** (0.002)	0.02*** (0.002)	0.01*** (0.002)	0.02*** (0.002)	0.02*** (0.002)	-0.01*** (0.002)	-0.02*** (0.002)	-0.02*** (0.002)	-0.03*** (0.002)	-0.02*** (0.002)
Disaster experience	0.13 (0.10)	0.08 (0.10)	-0.19 (0.13)	-0.01 (0.11)	0.14 (0.11)	0.06 (0.13)	0.12 (0.13)	-0.10 (0.13)	-0.02 (0.13)	-0.04 (0.14)
Level of income	-0.12*** (0.02)	-0.12*** (0.03)	-0.15*** (0.03)	-0.12*** (0.03)	-0.04 (0.03)	0.14*** (0.03)	0.15*** (0.03)	0.10*** (0.03)	0.17*** (0.03)	0.11*** (0.03)
Age	0.01 (0.004)	0.005 (0.004)	0.01 (0.005)	0.002 (0.004)	-0.001 (0.004)	-0.01** (0.005)	-0.01 (0.005)	-0.01** (0.005)	-0.01* (0.005)	-0.01** (0.005)
Education	0.10 (0.07)	0.11 (0.08)	0.10 (0.09)	0.22*** (0.08)	0.17** (0.08)	-0.24** (0.10)	-0.21** (0.10)	-0.25** (0.10)	-0.23** (0.09)	-0.19* (0.10)
Constant	0.85*** (0.26)	1.50*** (0.29)	1.92*** (0.34)	1.47*** (0.29)	1.29*** (0.30)	2.89*** (0.35)	2.95*** (0.35)	3.38*** (0.35)	3.50*** (0.34)	3.26*** (0.35)
Observations	645	643	640	647	633	639	646	644	648	638
Adjusted R ²	0.32	0.24	0.10	0.22	0.16	0.08	0.15	0.12	0.21	0.10
F Statistic	52.00***	34.38***	12.90***	30.71***	21.72***	10.56***	20.15***	15.53***	30.15***	12.77***

Note:

*p<0.1; **p<0.05; ***p<0.01

C5 Millet's attitude towards Cumhur voters

Table C13: Linear regressions for Millet's political tolerance toward Cumhur voters as outgroup.

	Organize rally (1)	Press release (2)	Electoral participation (3)	Surveillance (4)
Treatment: Solidarity w/ Cumhur	-0.11 (0.14)	-0.01 (0.13)	-0.09 (0.14)	-0.17 (0.15)
Treatment: Propaganda	-0.07 (0.13)	0.06 (0.13)	-0.09 (0.14)	-0.24 (0.15)
Pre-treatment polarization	-0.001 (0.003)	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)
Disaster experience	-0.06 (0.11)	0.13 (0.11)	0.04 (0.12)	0.05 (0.13)
Level of income	-0.07** (0.03)	-0.09*** (0.03)	-0.09*** (0.03)	0.06** (0.03)
Age	-0.001 (0.005)	-0.002 (0.005)	0.01 (0.005)	0.004 (0.01)
Education	0.37*** (0.09)	0.32*** (0.09)	0.26*** (0.09)	-0.09 (0.10)
Constant	2.50*** (0.34)	2.88*** (0.33)	2.72*** (0.34)	2.90*** (0.38)
Observations	645	644	643	644
Adjusted R ²	0.03	0.03	0.02	0.003
F Statistic	3.69*** (df = 7; 637)	4.32*** (df = 7; 636)	2.53** (df = 7; 635)	1.30 (df = 7; 636)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C14: Linear regressions for Millet's social distance with Cumhur voters as outgroup.

	Marrying son/daughter (1)	Doing business (2)	Kids being friends (3)	Neighbors (4)
Treatment: Solidarity w/ Cumhur	-0.07 (0.14)	-0.13 (0.14)	-0.08 (0.13)	0.07 (0.14)
Treatment: Propaganda	-0.26* (0.14)	-0.09 (0.14)	-0.14 (0.13)	0.08 (0.14)
Pre-treatment polarization	0.02*** (0.003)	0.01*** (0.003)	0.01*** (0.003)	0.01*** (0.003)
Disaster experience	-0.16 (0.12)	-0.41*** (0.12)	-0.26** (0.11)	-0.16 (0.11)
Level of income	-0.10*** (0.03)	-0.10*** (0.03)	-0.14*** (0.03)	-0.11*** (0.03)
Age	-0.004 (0.005)	0.0002 (0.005)	0.002 (0.005)	-0.002 (0.005)
Education	0.12 (0.10)	0.23** (0.10)	0.29*** (0.09)	0.22** (0.09)
Constant	2.41*** (0.35)	2.67*** (0.35)	2.65*** (0.33)	2.70*** (0.34)
Observations	639	643	640	644
Adjusted R ²	0.06	0.04	0.06	0.04
F Statistic	7.33*** (df = 7; 631)	4.71*** (df = 7; 635)	6.58*** (df = 7; 632)	4.37*** (df = 7; 636)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C15: Linear regressions for Millet's affective polarization toward Cumhur voters as outgroup.

	Patriotic (1)	Honorable (2)	Open-minded (3)	Smart (4)	Generous (5)	Arrogant (6)	Cruel (7)	Selfish (8)	Threat (9)	Hypocrite (10)
Treatment: Solidarity w/ Cumhur	0.13 (0.14)	0.23* (0.12)	0.23* (0.13)	0.06 (0.15)	0.10 (0.12)	0.03 (0.15)	0.11 (0.16)	-0.12 (0.15)	-0.17 (0.15)	-0.004 (0.15)
Treatment: Propaganda	0.09 (0.14)	0.03 (0.12)	0.16 (0.13)	0.11 (0.15)	0.01 (0.12)	0.01 (0.15)	-0.03 (0.16)	-0.09 (0.15)	-0.04 (0.15)	-0.13 (0.15)
Pre-treatment polarization	0.01*** (0.003)	0.02*** (0.003)	0.02*** (0.003)	0.01*** (0.003)	0.01*** (0.003)	-0.01*** (0.003)	-0.01*** (0.003)	-0.02*** (0.003)	-0.02*** (0.003)	-0.02*** (0.003)
Disaster experience	0.11 (0.12)	-0.09 (0.10)	-0.27** (0.11)	-0.09 (0.13)	-0.11 (0.10)	0.14 (0.13)	-0.07 (0.13)	-0.02 (0.12)	0.10 (0.13)	-0.06 (0.13)
Level of income	-0.05** (0.03)	0.005 (0.02)	-0.01 (0.03)	-0.04 (0.03)	0.03 (0.02)	-0.01 (0.03)	0.02 (0.03)	0.01 (0.03)	0.06** (0.03)	-0.01 (0.03)
Age	-0.02*** (0.005)	-0.02*** (0.004)	-0.01 (0.005)	-0.01 (0.01)	-0.01*** (0.004)	0.01** (0.01)	0.02*** (0.01)	0.01 (0.01)	0.01** (0.01)	0.01** (0.01)
Education	-0.12 (0.09)	-0.03 (0.08)	-0.13 (0.09)	0.06 (0.10)	-0.08 (0.08)	0.18* (0.10)	0.10 (0.10)	0.02 (0.10)	-0.02 (0.10)	0.11 (0.10)
Constant	2.77*** (0.34)	1.98*** (0.30)	1.63*** (0.33)	2.27*** (0.37)	1.85*** (0.30)	2.59*** (0.37)	1.96*** (0.39)	3.24*** (0.36)	2.51*** (0.38)	2.96*** (0.37)
Observations	641	627	641	636	635	637	638	641	637	634
Adjusted R ²	0.06	0.07	0.08	0.01	0.06	0.03	0.04	0.05	0.06	0.05
F Statistic	6.54***	7.77***	8.83***	1.86*	6.29***	3.53***	4.68***	5.51***	6.32***	5.52***

Note:

*p<0.1; **p<0.05; ***p<0.01

C6 Manipulation check

Table C16: Linear regressions for political tolerance of Millet as outgroup
for respondents who did not fail manipulation check.

	Organize rally	Press release	Electoral participation	Surveillance
	(1)	(2)	(3)	(4)
Treatment: Solidarity w/ Cumhur	0.02 (0.10)	0.20** (0.09)	0.28*** (0.10)	0.13 (0.11)
Treatment: Propaganda	0.26** (0.10)	0.25*** (0.10)	0.34*** (0.10)	0.01 (0.12)
Treatment: Solidarity w/ HDP	0.20** (0.10)	0.24** (0.10)	0.23** (0.10)	-0.003 (0.11)
Pre-treatment polarization	0.01*** (0.002)	0.01*** (0.001)	0.01*** (0.001)	-0.02*** (0.002)
Disaster experience	-0.03 (0.07)	0.03 (0.07)	-0.06 (0.07)	0.12 (0.08)
Level of income	-0.14*** (0.02)	-0.16*** (0.02)	-0.15*** (0.02)	0.08*** (0.02)
Age	-0.01 (0.003)	-0.003 (0.003)	-0.004 (0.003)	0.004 (0.004)
Education	0.06 (0.06)	-0.01 (0.06)	-0.08 (0.06)	-0.19*** (0.07)
Constant	3.18*** (0.22)	3.50*** (0.21)	3.58*** (0.22)	3.02*** (0.25)
Observations	1,536	1,543	1,542	1,533
Adjusted R ²	0.11	0.11	0.11	0.08
F Statistic	24.95*** (df = 8; 1527)	25.96*** (df = 8; 1534)	25.44*** (df = 8; 1533)	16.73*** (df = 8; 1524)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C17: Linear regressions for social distance with Millet as outgroup
for respondents who did not fail manipulation check.

	Marrying son/daughter (1)	Doing business (2)	Kids being friends (3)	Neighbors (4)
Treatment: Solidarity w/ Cumhur	−0.14 (0.11)	0.10 (0.10)	0.03 (0.10)	0.12 (0.10)
Treatment: Propaganda	−0.08 (0.11)	0.05 (0.11)	−0.03 (0.10)	0.04 (0.10)
Treatment: Solidarity w/ HDP	−0.14 (0.11)	0.13 (0.10)	0.05 (0.10)	0.09 (0.10)
Pre-treatment polarization	0.01*** (0.002)	0.004** (0.002)	0.01*** (0.002)	0.01*** (0.002)
Disaster experience	−0.21*** (0.08)	−0.26*** (0.07)	−0.28*** (0.07)	−0.33*** (0.07)
Level of income	−0.06*** (0.02)	−0.11*** (0.02)	−0.12*** (0.02)	−0.11*** (0.02)
Age	−0.003 (0.003)	−0.001 (0.003)	−0.002 (0.003)	−0.001 (0.003)
Education	0.05 (0.07)	0.12* (0.06)	0.11* (0.06)	0.11* (0.06)
Constant	2.34*** (0.24)	2.90*** (0.23)	3.03*** (0.22)	2.97*** (0.22)
Observations	1,527	1,544	1,547	1,544
Adjusted R ²	0.04	0.03	0.05	0.05
F Statistic	9.52*** (df = 8; 1518)	7.66*** (df = 8; 1535)	10.13*** (df = 8; 1538)	10.43*** (df = 8; 1535)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table C18: Linear regressions for affective polarization toward Millet as outgroup
for respondents who did not fail manipulation check.

	Patriotic (1)	Honorable (2)	Open-minded (3)	Smart (4)	Generous (5)	Arrogant (6)	Cruel (7)	Selfish (8)	Threat (9)	Hypocrite (10)
Treatment: Solidarity w/ Cumhur	-0.14 (0.10)	-0.11 (0.10)	-0.19* (0.11)	-0.06 (0.10)	-0.07 (0.10)	0.05 (0.11)	-0.07 (0.11)	-0.11 (0.11)	0.07 (0.11)	0.05 (0.12)
Treatment: Propaganda	-0.15 (0.10)	-0.05 (0.10)	-0.20* (0.11)	-0.02 (0.10)	0.001 (0.10)	0.01 (0.11)	-0.05 (0.12)	-0.03 (0.11)	0.12 (0.12)	0.12 (0.12)
Treatment: Solidarity w/ HDP	-0.20** (0.10)	-0.09 (0.10)	-0.14 (0.11)	0.05 (0.10)	-0.10 (0.10)	0.06 (0.11)	-0.06 (0.11)	0.02 (0.11)	0.12 (0.11)	-0.02 (0.12)
Pre-treatment polarization	0.02*** (0.002)	0.02*** (0.001)	0.01*** (0.002)	0.01*** (0.002)	0.02*** (0.002)	-0.02*** (0.002)	-0.01*** (0.002)	-0.02*** (0.002)	-0.02*** (0.002)	-0.01*** (0.002)
Disaster experience	0.12 (0.07)	0.19*** (0.07)	-0.07 (0.08)	0.05 (0.07)	-0.01 (0.07)	0.11 (0.08)	-0.07 (0.08)	0.04 (0.08)	-0.01 (0.08)	-0.05 (0.08)
Level of income	-0.12*** (0.02)	-0.07*** (0.02)	-0.14*** (0.02)	-0.13*** (0.02)	-0.08*** (0.02)	0.06*** (0.02)	0.16*** (0.02)	0.07*** (0.02)	0.22*** (0.02)	0.10*** (0.02)
Age	-0.01** (0.003)	-0.01** (0.003)	-0.005 (0.003)	-0.01** (0.003)	-0.01** (0.003)	0.01** (0.003)	0.01*** (0.003)	0.01** (0.003)	0.01*** (0.003)	0.01*** (0.004)
Education	0.01 (0.06)	-0.04 (0.06)	-0.04 (0.07)	-0.09 (0.06)	-0.01 (0.06)	0.02 (0.07)	-0.02 (0.07)	-0.02 (0.07)	-0.12* (0.07)	0.02 (0.07)
Constant	2.57*** (0.22)	2.16*** (0.21)	2.93*** (0.24)	2.93*** (0.23)	2.19*** (0.22)	2.62*** (0.24)	1.67*** (0.25)	2.66*** (0.24)	1.77*** (0.25)	2.23*** (0.26)
Observations	1,524	1,508	1,528	1,528	1,500	1,524	1,505	1,518	1,525	1,503
Adjusted R ²	0.13	0.13	0.08	0.10	0.10	0.07	0.09	0.09	0.15	0.06
F Statistic	29.82***	28.97***	17.92***	21.42***	22.20***	14.69***	19.10***	19.92***	35.04***	12.31***

Note:

*p<0.1; **p<0.05; ***p<0.01

Appendix D: Polarization and Disasters

D1 Wildfire

D1.1 Empirical Setting

To measure the scale of forest fires, we use the European Forest Fire Information System (EFFIS) database, which includes estimates for the number of forest fires (approx. 30 ha or larger.) in Europe and the MENA region. We rescale it to a range of (0, 5). To operationalize the dependent variable, political polarization, we use the V-DEM's (Coppedge et al., 2023) indicator that estimates whether a society is polarized into antagonistic, political camps. The higher the score, the more likely supporters of opposing political views interact in a hostile manner.

As for controls, in alternative model specifications, first, we include polyarchy score from the V-DEM dataset, which may confound the relationship between wildfires and polarization (higher polyarchy scores may be correlated with better governance and institutional measures against wildfires. Liberal democracies are less likely to be polarized.) In alternative models, we also control for the degree of political violence using the V-DEM dataset that indicates how often non-state actors use political violence. Non-state actors may employ environmental terrorism as a coercive tool, which may also drive polarization both offline and online⁴². We also control for the scale of mass mobilizations and the size of the support coalition of the incumbent regime using the V-DEM data, which may impact the level of polarization: exposure to protests may entrench partisan identities (Sato, 2024).

The final country-year-level dataset covers 44 countries for the time period 2006-2022 (Table D3). These countries are electoral or liberal democracies, some of which experienced autocratization in this time period (Table D2). We employ generalized estimating equations (GEE) as the main statistical model. This semi-parametric method allows us to estimate population-averaged parameters. We use AR-1 as the within-subject covariance structure. Each model controls for year effects, and some models estimate the lagged effect of predictors. Main results are reported in Table D1.

⁴²Yilmaz, Kamil. 2020. ‘Claiming and Glorifying Environmental Terrorism Online: The Case of PKK’s Children of Fire Initiative.’ *Global Network on Extremism and Technology*, December 15.

D1.2 Main Results

Table D1: GEE results for polarization and wildfire.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
(Intercept)	-0.72** (0.23)	3.10*** (0.29)	3.02*** (0.30)	2.68*** (0.27)	-0.92*** (0.12)	2.93*** (0.25)	2.81*** (0.25)	2.44*** (0.23)	2.67*** (0.26)
The number of fires (scaled)	0.34** (0.11)	0.28*** (0.07)	0.30*** (0.07)	0.23** (0.07)					
Polyarchy		-5.05*** (0.28)	-4.76*** (0.38)	-3.23*** (0.38)					
Support group size			-0.07 (0.11)	-0.27** (0.09)					
Political violence				0.21*** (0.05)					
Mass mobilization				0.39*** (0.04)					
The number of fires (lagged)				0.36** (0.13)	0.29*** (0.08)	0.31*** (0.08)	0.23** (0.09)	0.88** (0.33)	
Polyarchy (lagged)					-5.01*** (0.29)	-4.75*** (0.40)	-3.21*** (0.39)	-4.49*** (0.44)	
Support group size (lagged)						-0.04 (0.12)	-0.25* (0.10)	-0.06 (0.12)	
Political violence (lagged)							0.21*** (0.05)		
Mass mobilization (lagged)							0.38*** (0.04)		
Fire-Polyarchy interaction (lagged)								-0.74 (0.40)	
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scale parameter: gamma	2.42	1.53	1.54	1.23	2.46	1.59	1.59	1.28	1.59
Scale parameter: SE	0.12	0.07	0.08	0.06	0.12	0.08	0.08	0.07	0.09
Num. obs.	662	662	649	649	623	623	611	611	611
Num. clust.	662	662	649	649	623	623	611	611	611

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. AR-1 correlation structure.

D1.3 Descriptive Statistics

List of countries

Albania	Austria	Belgium
Bosnia and Herzegovina	Bulgaria	Croatia
Cyprus	Czechia	Denmark
Estonia	Finland	France
Germany	Greece	Hungary
Ireland	Israel	Italy
Kosovo	Latvia	Libya
Lithuania	Montenegro	Netherlands
North Macedonia	Norway	Poland
Portugal	Romania	Serbia
Slovakia	Slovenia	Spain
Sweden	Switzerland	Tunisia
Turkey	Ukraine	United Kingdom

Table D2: List of countries in the dataset.

Variables	N = 662
Number of fires (scaled)	0.25 (0.00, 5.00)
Polarization	-0.32 (-3.87, 4.18)
Polyarchy	0.75 (0.07, 0.92)
Support group size	1.81 (-0.08, 2.90)
Political violence	-1.32 (-3.47, 4.11)
Mass mobilization	0.09 (-2.82, 4.01)

Table D3: Descriptive statistics with mean and range.

D2 Floods

D2.1 Empirical Setting

The dependent variable and controls are the same in the analysis above. To operationalize the scale of floods, we use the Global Flood database's estimate of the size of the population exposed to a flood event. The database uses satellite imagery to track floods, and calculate population exposed to flood events by interacting the observed inundated area with population estimates from the Global Human Settlement Layer(GHSL). We scale this variable to (0, 100).

The final country-year-level dataset covers 97 countries for the time period 2000-2018 (Table D5). These countries are electoral or liberal democracies, some of which experienced autocratization in this time period (Table D6). We employ generalized estimating equations (GEE) as the main statistical model, and use AR-1 as the within-subject covariance structure. Each model controls for year effects, and some models estimate the lagged effect of predictors. Main results are reported in Table D4.

D2.2 Main Findings

Table D4: GEE results for polarization and floods.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
(Intercept)	-0.28 (0.21)	1.93*** (0.24)	1.94*** (0.24)	1.62*** (0.23)	-0.61*** (0.09)	1.44*** (0.17)	1.46*** (0.18)	0.97*** (0.17)
People exposed to floods (scaled)	0.02* (0.01)	0.01** (0.00)	0.01** (0.00)	0.00 (0.00)				
Polyarchy		-3.16*** (0.21)	-3.11*** (0.24)	-1.97*** (0.26)				
Support group size			-0.03 (0.06)	-0.12* (0.06)				
Political violence				0.20*** (0.03)				
Mass mobilization					0.23*** (0.03)			
People exposed to floods (lagged)					0.01* (0.01)	0.01* (0.00)	0.01* (0.00)	0.00 (0.00)
Polyarchy (lagged)						-2.94*** (0.22)	-2.82*** (0.26)	-1.60*** (0.28)
Support group size (lagged)							-0.06 (0.07)	-0.15* (0.06)
Political violence (lagged)								0.22*** (0.03)
Mass mobilization (lagged)								0.18*** (0.04)
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scale parameter: gamma	1.48	1.21	1.21	1.02	1.50	1.26	1.26	1.08
Scale parameter: SE	0.07	0.05	0.05	0.04	0.07	0.05	0.05	0.05
Num. obs.	1033	1033	1033	1033	936	936	936	936

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. AR-1 correlation structure.

D2.3 Descriptive Statistics

Variable	N = 1,033
People exposed to floods (scaled)	0.92 (0.00, 100.00)
Polarization	-0.19 (-3.87, 4.18)
Polyarchy	0.68 (0.19, 0.92)
Support group size	1.63 (-0.58, 2.89)
Political violence	-0.71 (-3.47, 3.26)
Mass mobilization	0.14 (-2.65, 4.01)

Table D5: Descriptive statistics with mean and range.

List of countries			
Albania	Argentina	Australia	Austria
Bangladesh	Barbados	Belgium	Benin
Bhutan	Bolivia	Bosnia and Herzegovina	Botswana
Brazil	Bulgaria	Burkina Faso	Canada
Chile	Colombia	Costa Rica	Croatia
Cyprus	Czechia	Denmark	Dominican Republic
Ecuador	El Salvador	Estonia	Finland
France	Georgia	Germany	Ghana
Greece	Guatemala	Guyana	Honduras
Hungary	India	Indonesia	Ireland
Israel	Italy	Ivory Coast	Jamaica
Japan	Kenya	Latvia	Lesotho
Liberia	Lithuania	Luxembourg	Madagascar
Malawi	Mali	Malta	Mexico
Moldova	Mongolia	Namibia	Nepal
Netherlands	New Zealand	Nicaragua	Niger
Nigeria	North Macedonia	Panama	Papua New Guinea
Paraguay	Peru	Philippines	Poland
Portugal	Romania	Sao Tome and Principe	Senegal
Sierra Leone	Slovakia	Slovenia	South Africa
South Korea	Spain	Sri Lanka	Suriname
Sweden	Switzerland	Taiwan	Thailand
Togo	Trinidad and Tobago	Tunisia	Turkey
Ukraine	United Kingdom	United States of America	Uruguay
Zambia			

Table D6: The list of countries in the dataset.