



Interventions to reduce partisan animosity

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Rising partisan animosity is associated with a reduction in support for democracy and an increase in support for political violence. Here we provide a multi-level review of interventions designed to reduce partisan animosity, which we define as negative thoughts, feelings and behaviours towards a political outgroup. We introduce the TRI framework to capture three levels of intervention—thoughts (correcting misconceptions and highlighting commonalities), relationships (building dialogue skills and fostering positive contact) and institutions (changing public discourse and transforming political structures)—and connect these levels by highlighting the importance of motivation and mobilization. Our review encompasses both interventions conducted as part of academic research projects and real-world interventions led by practitioners in non-profit organizations. We also explore the challenges of durability and scalability, examine self-fulfilling polarization and interventions that backfire, and discuss future directions for reducing partisan animosity.

Partisan animosity in America^{1–4} undermines our ability to address diverse policy issues such as pandemics^{5,6}, income inequality⁷ and education⁸, and it may also reduce support for democracy⁹ and the peaceful transfer of power¹⁰. Whereas there are several reviews of the causes and consequences of partisan animosity^{1,11–13}, we focus on the interventions to reduce it^{14–29}. With millions of dollars invested to reduce partisan animosity across hundreds of organizations and research programmes, there is a pressing need to scientifically evaluate and synthesize these interventions. After first defining partisan animosity, discussing the need to reduce it and outlining its social and psychological mechanisms, we synthesize the interventions that researchers, as well as practitioners in bridge-building organizations, have employed to reduce partisan animosity. We introduce the TRI framework to capture the three levels of interventions: thoughts, relationships and institutions. We also discuss ways to motivate people reduce their animosity and mobilize them to effect broader change. Finally, we touch on the durability and scalability of interventions. Although partisan animosity is a global issue³⁰, we focus on the United States, where the increase in out-party animosity over the past four decades has been larger than in many other countries³¹. Although most intervention studies for reducing partisan animosity focus on the United States, recent research suggests that interventions developed to address American polarization can be highly effective for reducing partisan animosity in other countries²⁹.

Defining partisan animosity

Many of the studies reviewed here use a variant of the term ‘political polarization’, which broadly refers to either the polarization of ideas or interpersonal polarization. The former is typically referred to as ideological polarization^{4,32} or issue polarization³³, and it reflects disagreement about political issues, policies or values. Ideological polarization is not necessarily negative: pluralistic societies have diverse viewpoints, and for democracies to function well, it can be

helpful to foster norms of civil dissent and for political parties to be easily distinguishable^{34,35}.

Interpersonal polarization has most commonly been characterized as affective polarization¹ and is often measured with ratings of warmth on a feeling thermometer. Affective polarization generally focuses on the difference in warmth that people feel towards outgroups versus ingroups¹, although the relative importance of each is disputed^{36,37}. Some operationalizations of affective polarization may simply measure disliking partisanship in general rather than any specific party³⁸. Other terms such as ‘partyism’³⁹ (hostility and aversion to a political party), ‘social polarization’³³ (bias, anger and activism) and ‘political intolerance’⁴⁰ (unwillingness to let political opponents express their views) have been used less frequently but often involve similar constructs. Recently, the term ‘political sectarianism’¹³ has been introduced to capture “the tendency to adopt a moralized identification with one political group and against another”. It encompasses three parts: othering (viewing people on the other side as fundamentally different from one’s own group), aversion (disliking and distrusting outgroup members) and moralization (viewing outgroup members as immoral).

We believe that political sectarianism captures much of the interpersonal polarization landscape, but given its recency and specificity, the empirical studies we review have not focused on this construct. For that reason, and because of the diversity of measures examined in past research, we opted to focus on what we see as a broader term: partisan animosity. We define partisan animosity as negative thoughts, feelings or behaviours towards a political outgroup. Notably, the term ‘partisan animosity’ involves only dislike of the outgroup and not positive regard towards the ingroup, which most of the studies we review do not measure. We chose this term because while it is unclear whether partisans like their own party more, they certainly report increasing dislike for the other party¹³. Using the umbrella term ‘partisan animosity’ allows us to synthesize a variety of interventions across different measures of

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animosity^{23,27,41,42}—feeling thermometers, self-reported attitudes and behavioural measures—and different varieties of animosity, including affective polarization, partyism, social polarization, political intolerance and political sectarianism.

Partisan animosity can occur at two levels: between/towards people in the general public and between/towards members of political parties and political elites, with the latter sometimes being referred to as elite polarization⁴³. The interventions we review probably reduce partisan animosity towards both elites and voters of the opposing party, but most studies do not explicitly mention one group or the other (for example, measuring animosity towards only ‘Republicans/Democrats’). Some work suggests that people primarily think about elites when responding to these measures, but they are probably considering voters as well⁴². We include all forms of partisan animosity—whether towards elites, activists or the general public—under one umbrella.

Why reduce partisan animosity?

We believe that partisan animosity—harbouring and acting on negative feelings towards a group of people merely on the basis of their party identity—is, itself, undesirable. Partisan animosity also leads to bad outcomes for individuals and society.

First, partisan animosity may contribute to the erosion of democracy. It is associated with anti-democratic attitudes^{9,44} and support for partisan violence¹⁰, although the causality of this association is debated among polarization scholars^{9,45–47}. Specifically, animosity may drive partisans to disregard constitutional protections (such as the separation of powers, checks and balances, and the rejection of authoritarian tendencies) when their side is in power and to support these protections when the opposition rises to power⁹. Misperceptions about the other side (which are correlated with partisan animosity) weaken commitment to democratic principles⁴⁸, and partisan animosity may lead people to reject policies they would have otherwise supported, simply because they originate from the outgroup⁴⁹. When this kind of party polarization spreads to political leaders, it cements legislative gridlock⁵⁰, which is itself a form of democratic erosion inhibiting governmental responsiveness.

In addition to its impact on the democratic process, partisan animosity could contribute to prejudice and discrimination against marginalized groups. Because partisan identity is now strongly tied to demographics such as race, gender and age^{51,52}, discriminating on the basis of political identity^{53–55} also impacts other identity characteristics^{56,57}. Thus, another reason to target partisan animosity is that it leads to reduced support for demographic diversity. For example, if Republicans exclude Democrats from right-leaning spaces and jobs, they may be excluding people of colour, women and younger people. This can perpetuate systemic inequalities in society.

In people’s daily lives and in their personal relationships, partisan animosity can lead to heated arguments and loss of trust, respect and social connection. Family holiday dinners have decreased in duration, which some scholars attribute to political tensions⁵⁸. People are opting for politically homogeneous friendships⁵⁹ because associating with political outgroup members is too unpleasant. These trends can undercut critical social support systems and amplify real-world echo chambers where people become increasingly isolated or segregated from others⁶⁰. Additionally, perceiving high levels of partisan animosity can strain our social fabric, triggering institutional, governmental⁶¹ and general social distrust⁶².

Some argue that the emphasis on reducing partisan animosity is misplaced⁶³ or even that reducing animosity would inhibit positive social change, because outgroup animosity may motivate social activism³³. However, activism in a polarized society is unlikely to achieve legislative success, given the state of gridlock fostered by distrust of opposing political elites⁴⁴. It is also possible to vehemently disagree about policy while still respecting outgroup members’

basic civil rights and dignity, so the reduction of partisan animosity need not be paired with a reduction in activism. Taken together, these reasons present a strong case for the importance of improving cross-partisan relations.

Likely causes of partisan animosity

Political and psychological scientists have outlined several frameworks to synthesize the causes of partisan animosity, ranging from personal thoughts to interpersonal relationships and societal institutions. The causes we discuss are probably applicable to partisan animosity both among the general public and among elites, though more research is needed to test this possibility.

At the level of thoughts, partisans hold inaccurate beliefs about their political opponents^{14,48,64}. They misunderstand both the composition and the beliefs of the other side^{14,65} and overestimate the extent to which their opponents dehumanize them⁴⁸. Like other intergroup conflicts, animosity is rooted in stereotypes that exaggerate the threat of the other side^{47,66}. Partisans also exhibit cognitive rigidity, making them less receptive to evidence that counters partisan narratives^{67,68}.

At the level of relationships, one commonly discussed cause of animosity and polarization is an increase in ideological sorting (that is, that Democrats are now mostly liberal and Republicans mostly conservative)³³. Relatedly, people’s partisan identities have begun to fuse with other identities such as race, religion, gender, sexuality and geography^{1,13,69}. These ‘mega-identities’ lead to stronger ingroup–outgroup dynamics and animosity towards outgroup members⁶⁹.

At the level of institutions, the structures of public institutions (for example, government⁴³ and social and mass media^{70–74}) may reinforce and amplify stereotypes, making each side seem like a caricature of itself by incentivizing provocative rhetoric and divisive behaviour⁷⁵. These institutions are platforms for public dialogue, and, in many cases, the norms tilt towards hostility.

It is likely that the factors mentioned above, as well as many yet-to-be-identified processes, all play a role in inducing and perpetuating partisan animosity, although some of these factors are disputed^{76–80}, and scholars across disciplines continue to explore the causes of partisan animosity. In the next section, we focus on the interventions designed to reduce partisan animosity.

‘TRI’ing to reduce partisan animosity

There are many promising interventions for reducing partisan animosity, but until now they have not been methodically categorized. Though there are different ways to make sense of the numerous types of intervention, we believe it is useful to categorize them according to the level at which they intervene. Applying the analytical framework of micro, meso and macro⁸¹ to the context of partisan animosity and mirroring some of the causes outlined above, the interventions cluster around three broad levels: thoughts, relationships and institutions (TRI). These categories are conceptual and fuzzy, as some interventions may have spillover effects across multiple levels. For example, interventions that treat individual beliefs may bring partisans into contact with one another, and changes to interpersonal relationships may shape norms in institutions. Nevertheless, categorizing interventions in this way may help clarify how to properly scale and implement them.

These interventions build on prior research on intergroup relations. Interventions that target thoughts correct misconceptions about the outgroup and highlight commonalities between ingroups and outgroups. At the next level, relationship interventions build skills for interacting positively with outgroup members and bring people together for productive, meaningful contact. Finally, institutional interventions target the culture within which partisans are embedded by focusing on changing the media and political structures that shape our society.

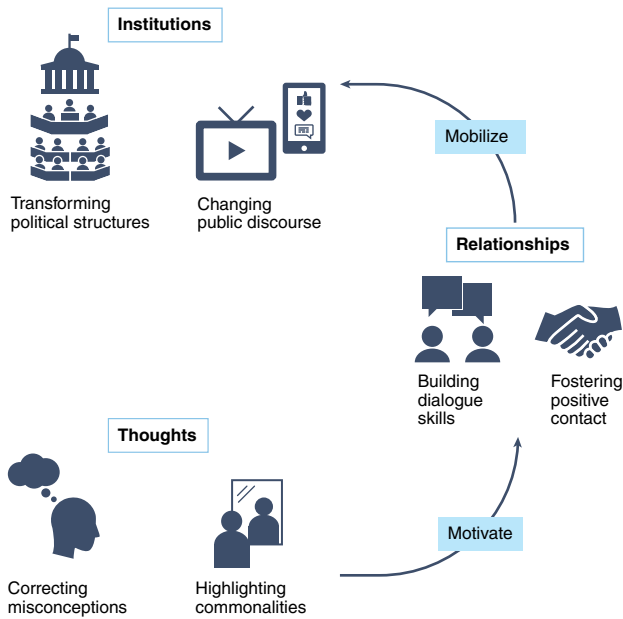


Fig. 1 | Six themes of interventions for reducing partisan animosity.

Interventions range from thoughts (correcting misperceptions and highlighting commonalities) to relationships (building dialogue skills and fostering positive contact) to institutions (changing public discourse and transforming political structures). To transcend from one level to the next, people need to be motivated (thoughts to relationships) and then mobilized (relationships to institutions). Icon credits: The Noun Project. Figure designed by C. Redekopp.

For each level, we briefly discuss how political animosity manifests before reviewing the various interventions. We also highlight real-world interventions led by practitioners in non-profit organizations. See Fig. 1 for a visual representation of the levels and themes introduced here. In the discussion below, we focus on some of the most promising interventions in each level. See Box 1 for a discussion of interventions that have backfired (that is, increased partisan animosity).

Intervening on thoughts. Partisan animosity is partially the thoughts partisans have: some people hold very negative beliefs and feelings about the opposing party. These interventions focus primarily on correcting misconceptions about outgroups and highlighting group commonalities (when they exist) to address the particular misconception that partisans are very different from one another.

Correcting misconceptions. Political groups develop warped perceptions about each other, incorrectly thinking that their opponents possess especially extreme political views (false polarization)^{61,65,82,83} and lack key human traits (dehumanization)^{84,85}. Partisans also overestimate how negatively they would feel if they interacted with their opponents⁸⁶, and they have exaggerated perceptions of how much their opponents dislike and dehumanize them (inaccurate meta-perceptions)^{48,87}. These misconceptions may stem from several sources, including the rhetoric from political elites, mass media and social media⁸⁸.

Correcting misconceptions is challenging in many areas (for example, debunking online misinformation and conspiracy theories⁸⁹), but some interventions appear to be effective. Researchers have reduced negative partisan attitudes^{19,29,46} and support for partisan violence⁶⁶ by reducing misperceptions about the prevalence of negative partisan attitudes and support for partisan violence, respectively. Additionally, Republicans and Democrats overestimate

Box 1 | Why interventions backfire

Sometimes, interventions backfire and end up increasing animosity^{15,17,27,198}. We review examples of backfiring interventions that fit within three themes: stereotype amplification, improper preparation and side effects. Although research on backfiring is limited—possibly because of incentives to publish only positive findings¹⁹⁹—identifying when and why interventions fail (or backfire) allows practitioners to re-allocate resources away from unhelpful strategies and towards best practices instead.

Stereotype amplification

In a recent Twitter study, participants followed bots that retweeted prominent out-party members, which the authors thought might reduce polarization by breaking down echo chambers. However, rather than reducing polarization, this intervention did the opposite—the participants became more entrenched in their views¹⁵. One explanation for this finding is that prominent out-party members are stereotypically polarized, which confirms the idea that the other side holds very different values and beliefs. Though more research is needed, practitioners may want to consider avoiding exposing participants to extreme stereotypes of outgroups.

Improper preparation

For interventions to succeed, participants must be prepared for them. For example, for contact to be effective, participants should first recognize the similarities with their opponents and be confident in their dialogue skills. Otherwise, contact can fail or even backfire. One study found that when partisans imagined conversing with a political outgroup member, they became more anxious, less empathic and ultimately more polarized²⁷. This effect may have occurred because the partisans lacked the dialogue skills and recognition of commonality necessary for engaging with opponents.

Side effects

Sometimes, interventions may reduce some aspects of polarization while creating other problems. For example, priming common identities is generally successful at reducing polarization, but some common identities can have negative side effects. In one study, priming American identity led to negative attitudes towards immigrants¹⁹⁸. In another, creating a common identity between Republicans and Democrats about mistrust of a foreign power actually reduced cooperation between them¹⁷. More broadly, even if interventions can promote civility, they also may inadvertently delegitimize the views on either side²⁰⁰.

the extent to which the other side dehumanizes them by 50–300%, and debunking these misperceptions can reduce rates of animosity⁴⁸. Since partisans falsely believe that the characteristics they tend to dislike are very prevalent in the outgroup (for example, Republicans believe that 30% of Democrats are atheist/agnostic, and Democrats believe that 38% of Republicans earn over \$250,000, when in reality these figures are 8% and 2%, respectively)¹⁴, animosity can also be reduced by correcting these misperceptions. Animosity can also be reduced by correcting misconceptions about how humble the other side is⁹⁰ and employing metacognitive training to correct stereotypes²². Exposure to opponents' thoughtful arguments and personal experiences can help transform people's perceptions of how thoughtful or dogmatic the other side is^{18,24,91,92}. Some media organizations (for example, <https://www.allsides.com/>) attempt to correct misconceptions about the other side by exposing partisans to thoughtful representations of alternative political worldviews.

Though we focus specifically on interventions to reduce partisan animosity, we also note that the strategy of correcting misconceptions has successfully changed other political outcomes, including reducing ideological commitment^{23,65,93} (but see ref. ⁹⁴). Correcting misperceptions has also effectively reduced partisan animosity across 26 countries (ranging from Sweden to Sudan)²⁹. Recently, scholars have taken a special interest in misperceptions of anti-democratic attitudes⁹. Falsely believing that an opponent is not committed to democratic principles is associated with one's own decreased commitment to these principles⁴⁷. However, to our knowledge, the only study that reduced misperceptions of outgroup members' negative attitudes had no clear effect on anti-democratic attitudes⁴⁶. More work in this area is urgently needed given the rise in critical threats to democracy in the United States and abroad^{10,95}.

Correcting misconceptions is a key step in decreasing animosity and can be done relatively simply by presenting more accurate information. One particular misconception is the idea that political opponents are meaningfully different from one another in ways that extend beyond ideological differences, which we turn to next.

Highlighting commonalities. In recent years, partisan identities have become more salient. For example, many dating app users are now more likely to signal their partisan identity to potential matches^{96,97}. When the little information that is available about a person relates to partisan identities³⁸, it can be challenging to discover common ground. Despite the broad similarities between people⁹⁸, partisans are seen as living increasingly different lives⁹⁹. People tend to see outgroup members as fundamentally different, whether in their moral beliefs or even in their pet preferences¹⁰⁰. While some partisan differences in demographics and behaviours do exist³³, partisans have much in common—more than they assume. For example, among Americans, there is bipartisan support for several key issues, such as bolstering social security, raising taxes on capital gains and dividends, and deterring illegal immigration (<https://vop.org/finding-common-ground/>). As with other intergroup conflicts, finding common ground may be a path towards bridging divides¹⁰¹.

Interventions that focus on commonalities either highlight partisans' shared characteristics or reduce the salience of partisan identities. Some researchers use the common ingroup identity model^{102–104} as a theoretical basis for emphasizing the American identity that Republicans and Democrats share. While these interventions often reduce negative attitudes in the moment^{20,105,106}, they may lack durability because people have multiple identities and the salience of their American identities depends on people's specific context¹⁰⁷. Conversely, highlighting more community-based identities (such as shared sports fandom¹⁰⁸, religious ties¹⁰⁹ or book interests¹¹⁰) may be more successful in the long term¹¹¹, given their salience in daily life. The One America Movement (<https://oneamericamovement.org/>) attempts to bring partisans with similar faith backgrounds together to have conversations around politics and their shared religious values.

Other scientists have reduced the salience of partisan identity without directly invoking a common ingroup. For example, partisans who learn about political campaign strategies feel more positively towards the other side²⁸. Political strategy news hides the differences between the parties, as both parties engage in similar political strategies. Similarly, when partisans learn information about outgroup members that is unrelated to politics, their partisan animosity decreases^{38,112}.

One large-scale initiative seeking to increase perceived similarity across the aisle is Public Agenda's 'Hidden Common Ground' initiative. They help Americans recognize the commonalities they share through research, journalism and public engagement (<https://publicagenda.org/the-hidden-common-ground-initiative/>). Recognizing some commonality between partisans may be helpful for fostering cross-cutting relationships.

Intervening on relationships. In addition to improving people's thoughts and feelings towards outgroup members, it is important to improve the interactions between partisans when they have contact with each other. Much research suggests that four conditions are essential for contact to effectively reduce outgroup animosity: (1) equal group status within the contact situation, (2) common goals, (3) intergroup cooperation and (4) the support of authorities, law or custom^{113–115}. A fifth condition, having the potential for friendship with an outgroup member, has also yielded positive results¹¹⁶. Synthesizing some of the classic work on contact theory with recent insights from depolarization interventions, we propose two additional conditions that may lead to greater success in the political context: (6) including training in dialogue skills^{18,117–119} and (7) structuring contact interventions to highlight common identities, behaviours, preferences and more^{27,120}.

Building dialogue skills. Most people fear talking about politics, especially with out-partisans^{121–123}, so they either avoid these conversations or have them online, where they can caricature and mock those on the other side^{75,124}. Political moderates and those who are less polarized (the 'exhausted majority')¹²⁵ are most likely to opt out of uncomfortable political conversations. This leaves only the most aggressive and least representative people to debate each other (for example, 'committed conservatives' versus 'progressive activists'), creating the illusion that people are more polarized than they are (called 'false polarization'). It is important for less polarized people to have discussions to minimize the social proof of partisan animosity, but unfortunately, many people lack the skills, interest and confidence to have constructive dialogue across divides⁷¹.

Dialogue trainings teach participants to intentionally inquire about their opponents' viewpoints^{126–128}, avoid moralizing language¹²⁹, focus on their personal experiences^{18,91}, use balanced pragmatism¹¹⁹ and signal receptiveness to opposing views¹¹⁸. In at least some of these studies, preparing people for constructive engagement not only made conversations more productive and enjoyable but also increased positive perceptions of political opponents^{18,91,127}. One useful strategy is to shift intentions in conversations away from persuasion towards understanding¹²⁹. The Listen First Project, for example, promotes dialogue skills by helping their affiliates to proactively seek to understand the other side rather than preaching or proselytizing to them (<https://www.listenfirstproject.org/>). Conversational skills are useful for all dialogues, but especially for political discussion. By changing how we talk—and listen—we can better respect our opponents' views and have more positive interactions with them.

Fostering positive contact. Partisans are physically isolated from each other in many ways: they frequent different restaurants, work in different careers⁹⁹ and are less likely to marry each other¹³⁰. How much geographical sorting (political opponents living in politically homogeneous communities) is actually occurring is debated by political scientists^{78–80,131–135}, but more than half of Republicans and Democrats have just a few or no close friends who are members of the opposing party, and the absence of cross-party friendships is correlated with hatred for the outgroup²⁷. Contact theory¹¹³ suggests that providing individuals with opportunities to interact with members of opposing groups may decrease animus. A rich body of literature in social psychology details the positive effects of contact on intergroup relations across barriers related to race¹³⁶, ethnicity¹³⁷, religion¹³⁸ and sexual orientation¹³⁹.

Researchers have used social psychological insights to create positive and meaningful contact between political opponents, most often through civil conversations, about either political issues or just getting to know each other. Examples include internet forums, workshops and book clubs^{27,140,141}. Outgroup contact may lead to a positive feedback loop. In one study, partisans who were assigned to

engage with an outgroup member reported a greater inclination to do so again in the future¹²⁰. Simple contact between partisans can reduce partisan animosity^{27,115}; however, not all forms of contact are equally conducive to reducing animosity, and some forms of contact may even exacerbate animosity¹⁵ (see Box 1 for backfire effects).

Positive intergroup contact can help partisans realize that the political divide is narrower than they believe, generating more accurate beliefs^{27,120}. The organization Braver Angels does this by hosting discussions between ‘blues’ and ‘reds’ (<https://braverangels.org/>). The discussions focus on policy issues but also encourage specific forms of dialogue between partisans while highlighting the things they share in common, such as their agreement on many key policy issues (<https://vop.org/finding-common-ground/>). Their work reduces animosity and even increases monetary support for depolarization initiatives¹¹⁷.

Intervening on institutions. The broadest level of intervention for reducing partisan animosity is institutional. Current governmental structures and norms of social discourse encourage partisan animosity and need to be transformed. Impactful interventions at this level are difficult to implement effectively given their scalability (see the section below on ‘Scalability’). Unlike the previous sections, in which there are numerous studies demonstrating the efficacy of the interventions, the evidence in support of institutional interventions is much sparser. Nonetheless, we discuss the broad kinds of interventions that could yield positive outcomes.

Changing public discourse. We consider the way members of the public, political pundits and elected officials shape public discourse across social and mass media. Public political discourse may play a role in either increasing or reducing partisan animosity, in part because public communication shapes social norms^{87,142} about appropriate ways to communicate across divides. If public discourse were polite, respectful and productive, this would set a positive tone for interactions across political divides.

Unfortunately, in the current political climate, public discourse norms encourage hostility and animosity^{41,87}. On social media, where signalling outgroup dislike increases engagement, users are incentivized to increase antagonism, facilitate the spread of misinformation and stoke both tribalism and moral outrage^{75,143–149}. Although some emerging evidence questions the causal relationship between the media and political animosity^{76,77}, interventions could nonetheless improve the design of social media to create a depolarizing experience for users. Political elites (for example, politicians and media figures) bear some blame for hostile public discourse, in part because their aggressive and dehumanizing behaviour serves as a model for others^{9,150,151}.

Changing public discourse requires reshaping social norms and incentives around polarizing rhetoric. Social media platforms could nudge their millions of users to be kinder towards the outgroup. This could be accomplished by slowing down people’s ability to reply in anger and highlighting less polarizing content with their news algorithms⁷¹, as well as changing the way likes and retweets work on Twitter¹⁴⁹. However, these solutions would probably result in reduced engagement⁷⁵, so there is little incentive for the platforms to implement such measures. Indeed, leaked documents from Facebook provide evidence that the social media company weights angry reactions five times as heavily as likes in deciding what content to display to users¹⁴⁷. Users could simply deactivate social media¹⁵², but tech isolationism is difficult in an interconnected world⁷¹. Nonetheless, if the incentives were to change, fine-tuning social media platforms to promote content that receives bipartisan support may lead to more good-faith cross-partisan engagement⁷¹.

Much of public discourse is shaped by leading political figures. As evidenced by the oft-discussed friendship between Justices Ginsberg and Scalia, political figures can model warmth towards

one another despite political differences, and these role models may facilitate more positive discourse and reduce animosity in the general public. Supporting this idea, researchers found that observing a warm interaction between Senate minority and majority leaders Chuck Schumer and Mitch McConnell significantly reduced participants’ outgroup animosity¹⁶. Unfortunately, elites are incentivized by their polarized bases to berate and demean their opponents¹⁵³, but some organizations seek to change the incentive structure to nudge elites towards more civil discourse (see, for example, <https://www.instituteforcivility.org/>). We suspect that witnessing respectful discourse surrounding contentious issues may compel people to be more courteous themselves, though more research is needed. We also acknowledge the difficulty of changing institutional norms of public discourse, but the importance of doing so is worth emphasizing. It may be easier to change discourse norms of more local institutions, especially universities, because many people there are committed to the civil exchange of ideas.

Mass media can help to reduce partisan animosity by creating social proof of civil discourse^{87,154,155}, balancing politically extreme pundits with a more diverse and representative set of perspectives, emphasizing people’s increasing desire to reduce animosity^{156,157}, highlighting that most Americans are not even interested in politics (let alone polarized), correcting people’s misinformation and exaggerations about the other side^{19,29,65,158}, and encouraging norms of open-mindedness¹⁵⁹. Unfortunately, media outlets are also incentivized against these measures: they themselves are often strongly polarized, and polarization helps draw viewers¹⁵⁴. However, bipartisan and non-partisan news aggregators (for example, <https://www.theflipside.io/> and <https://ground.news/>) offer a promising respite by presenting reasonable positions from across the political spectrum.

Changing public discourse is one step towards creating a less polarized environment, but its lasting success requires that we transform the political structures that incentivize partisan animosity.

Transforming political structures. American political institutions are structured in a way that exacerbates conflict and solidifies gridlock. To enact lasting change, political scientists have argued that our political system (in the United States) needs to change^{160,161}; but these suggestions are mostly speculative, as none has been fully implemented and tested, and some political scientists remain sceptical about whether structural changes can help reduce animosity^{162–164}. Nonetheless, we highlight some promising directions for these larger-scale, systemic changes.

One suggestion to reduce animosity is to expand the two-party system¹⁶⁵. Although there are structural challenges that reinforce the two-party system in the United States¹⁶⁶, having multiple viable parties could encourage cooperation, as interparty coalitions would be a prerequisite for governance. Likewise, negative campaigning may be a riskier strategy in multiparty systems because of the potential need to form coalitions. Other suggestions have included conducting open primaries¹⁶⁷, shifting to proportional representation systems and ranked-choice voting^{168,169}, and curbing the influence of individual campaign donors, particularly corporations¹⁷⁰. These measures may lessen the influence of extreme partisans and reduce the incentives for elite displays of intergroup hostility. FairVote is an organization doing important work to advocate for structural change that could reduce hyper-partisanship—for example, by advancing ranked-choice voting (<https://www.fairvote.org/>).

Motivate and mobilize

Each of the three intervention levels—reducing animosity at the levels of thoughts, relationships and institutions—has largely been studied in isolation. Changing basic cognitions requires different knowledge and tools than lobbying for large-scale political change, but reducing partisan animosity requires an integrated approach that

Box 2 | Self-fulfilling polarization

Ironically, the more researchers, public figures and the media lament the rise of political polarization, the more we may be contributing to the problem, since the more people see polarization all around them, the more polarized they become.

Outgroup extremity is self-fulfilling

People on the left and right perceive others as more ideologically extreme than they actually are, which in turn affects the extremity of their own views⁶⁵. This means that perceived as opposed to actual ideological polarization may be a stronger driver of negative outgroup attitudes⁶¹. People thus exaggerate the extremity of outgroup members, which may lead them to become more extreme themselves. In turn, this may cause their outgroup to become even more extreme, resulting in a seemingly never-ending cycle fuelled both by misperceptions and—eventually—by reality.

Outgroup animosity is self-fulfilling

Americans¹⁹, as well as participants across 26 countries²⁹, hold exaggerated beliefs about how negatively their political outgroup feels about their ingroup. These exaggerated beliefs lead partisans to believe that the outgroup is motivated by the intent to purposefully obstruct political progress. What begins as a misperception about how negatively the outgroup feels soon turns into reality.

What causes self-fulfilling polarization?

One reason may be that media discussion about extreme polarization communicates descriptive norms to which people tend to conform^{87,172}. In other words, hearing about a divided country causes people to believe that is the case and then follow suit. Researchers and practitioners studying polarization should be aware of the harm they may cause by enhancing perceptions of polarization and identify measures to mitigate these.

connects all three levels. It is not enough to just have more accurate perceptions of the other side or to have a few positive interactions with outgroup members. To implement lasting change, once partisans alter the way they think about their opponents, practitioners must motivate them to form relationships with outgroup members. And once they have adopted more civil attitudes, partisans need to be mobilized to advocate for institutional change (Fig. 1).

Motivate. Thought-focused interventions change partisan mindsets, including correcting negative beliefs about opponents^{84,85} and the scale of animosity^{48,87}. However, feeling more favourably towards a cross-partisan does not automatically translate into enthusiasm about interacting with them. Research should explore how to motivate civil cross-partisan engagement, in addition to correcting misconceptions and highlighting commonalities. People's motivation may be increased by focusing on potential benefits¹⁷¹, in this case rewarding cross-partisan interactions.

While social proof¹⁷² can accelerate animosity (a concept we elaborate on in Box 2), it can also motivate people to reduce animosity. People do not want to miss out on social trends targeted at improving the common good, as the 'ice bucket challenge' for ALS research demonstrated¹⁷³. Perhaps there is an opportunity to create a 'reducing animosity' challenge. Scientists and practitioners could also help to create positive social proof by changing the way they talk about their depolarization work⁸⁷. First, they could emphasize shifting norms: more and more people are committed to reducing animosity¹⁵⁶. False polarization could be another point of emphasis.

While a minority of Americans are very affectively polarized, most are not as polarized as many assume, nor are they strongly interested in politics^{38,125}. If the media were to emphasize this lack of polarization (as some have¹⁷⁴), people may be motivated to conform to this descriptive norm of low partisan animosity.

Mobilize. Researchers and practitioners can reduce animosity by changing individual mindsets, motivating people to engage with opponents and providing opportunities for positive contact. People can commit to long-term personal change by implementing commitment devices^{175,176} (for example, restricting time spent on Twitter) and can translate that commitment into action by using if-then plans that specify how to respond to opportunities (for example, listening while the opponent is speaking) or obstacles (for example, staying calm when opponents disparage one's opinions). However, large-scale impact requires connecting positive interpersonal experiences to broad institutional change. To do this, people need to commit to influencing their social circles and advocating for systemic change. Some organizations, such as Braver Angels, have created infrastructure to expand their reach—for example, by recruiting volunteers to be ambassadors, organizers and event moderators. We encourage researchers to evaluate similar approaches.

Some mobilization efforts identify easy, simple tasks that many people are willing to do, but while these efforts could scale widely, they may not lead to durable change, especially when they scale only within certain social groups. A comprehensively effective mobilization movement would also develop a base of people committed to sustained, effortful action. This could be achieved by giving people responsibility for key outcomes and enmeshing them in an ever-growing network of meaningful relationships with outgroup members^{177,178}.

From science to lasting change

We note that partisan animosity is a specific example of a broader phenomenon: intergroup prejudice¹¹³. A recent review of 418 prejudice reduction experiments, including extended and imaginary contact, cognitive and emotional training, social categorization, and other methods, found that few studies demonstrated strong evidence of widespread success¹⁷⁹ (political prejudice was excluded from the review). The authors of that review suggest that many issues contribute to the disconnect between promising research and long-term prejudice reduction, including publication bias, small sample sizes and short-term outcomes. We suspect that many of these issues may apply to the studies we discuss here. Many interventions show promise in controlled, small-scale studies, but the most successful interventions need to be effective (have reliable, large effects), durable (have long-lasting effects), broad (influence partisans across the political spectrum) and scalable (be practically applicable in real-world settings). We describe the science behind two of these elements—durability and scalability—below.

Durability. Durable interventions are long-lasting, continuing to impact behaviour even in the chaotic environment of everyday life. One potential predictor of durability is the effect size of the intervention—interventions with larger effect sizes will probably last longer¹⁸⁰. We suspect that interventions with more depth of engagement will yield larger effect sizes (that is, more powerfully reduce partisan animosity), but a formal comparison of effect sizes across interventions is beyond the scope of this paper. Just as memorizing new information is helped by experiential learning and personal relevance¹⁸¹, reductions in animosity may be more durable when they are 'deeper'. For example, just reading about one's own misconceptions^{14,19,29,65} may help in the short term, but they may soon creep back in after one is re-immersed in partisan media coverage. Conversely, interventions that involve repeated personal (and positive) connections with political opponents are probably more

durable. For example, hosting standing dinner parties with out-group members¹⁸² or joining a long-standing religious group with diverse political viewpoints¹⁸³ are probably both relatively durable interventions.

Other work on ‘wise interventions’¹⁸⁴ shows that the most durable interventions dovetail with powerful human desires, especially meaning-making. For interventions to be more durable, they should satisfy the three motives that guide meaning-making: accuracy, self-integrity and belongingness. Interventions that guide partisans to arrive at accurate beliefs about their opponents, enhance partisans’ self-integrity and instil ingroup norms of kindness and civility may sustainably reduce partisan animosity. Importantly, interventions should not tell participants what to think; rather, they should encourage internal reflection so that change stems from people personally grappling with issues¹⁸⁵.

Scalability. Scalable interventions are able to reach many people while remaining effective¹⁸⁶ and can involve tweaks to existing large-scale platforms¹⁵. For example, Twitter has a highly scalable intervention that asks its millions of users if they would actually like to read an article before sharing¹⁸⁷. Another example of scalable interventions is ‘cellular organizations’, where each chapter (or ‘cell’) is independently organized and quasi-independent yet supported by the broader organizational infrastructure. Cellular organizations include fast-food franchises, sororities and Alcoholics Anonymous chapters. Bridge USA (<https://www.bridgeusa.org/>) is an example of a cellular organization, because it can be initiated by any group of motivated students at any college.

Simple community building may be one of the most scalable ways to reduce animosity. Partisans who engage in community activities may get to know one another over shared apolitical interests first, thereby giving them the opportunity to regularly engage in contact with the other side in ways that emphasize commonalities^{108,120}.

Durability versus scalability. Highly durable interventions may be more difficult to scale, and scalable interventions may not be durable. Small social media tweaks may not foster goodwill between partisans in heated offline encounters, and transformative personal relationships with cross-partisans may be hard to duplicate across the country—especially without substantial resources. Researchers have tried to create low-cost scalable interventions through vicarious or imagined contact between partisans, but their efficacy is unclear^{26,27,188}. Positive, semi-structured cross-partisan ‘in-person’ discussions over online platforms (such as Zoom) may allow greater scalability while providing adequate durability (<https://www.unify-america.org>). Future work could use meta-analyses to statistically contrast the impacts of different interventions, though researchers should be careful in making comparisons across different contexts.

Bridging research and practice. Relevant to the tension between durability and scalability, there is a tension between research and practice¹⁸⁹. Although many scientists and practitioners are committed to understanding partisan animosity, scientists develop novel and theoretically driven interventions that target social or cognitive processes but are typically less interested in scalability or durability in the real world. By contrast, practitioners are interested in creating powerful examples of real-world depolarization that typically prioritize either durability (such as deploying within a community to stop cycles of violence) or scalability (such as developing a television programme with national reach) but are typically less interested in novelty or measuring the exact process of change.

Given the complementary interests of scientists and practitioners, partnerships between them will help to generate the most effective interventions. Scientists can help to evaluate real-world interventions and identify the ‘active ingredient’, whereas practitioners can tell scientists what actually works on the ground with

diverse samples and speak to an intervention’s potential for durability and scalability. Practitioners offer scientists opportunities to test the generalizability of their interventions, and scientists offer practitioners opportunities for rigorously assessing their interventions and providing evidence-backed credibility, which is becoming increasingly valuable in this space. Despite some collaborations in the peacemaking space¹⁹⁰, there are few formal practitioner–scientist collaborations seeking to reduce partisan animosity¹¹⁷. This is particularly surprising given the abundance of organizations dedicated to bridging partisan divides (<https://www.bridgalliance.us>).

Challenges to collaboration include different jargon, assumptions and goals, but some organizations are currently creating infrastructure and incentives to help overcome these challenges and advancing the promise of ‘translational science’¹⁹⁰. One example is the New Pluralists initiative, a collaborative of funders, practitioners and scientists (<https://newpluralists.org/>).

Advanced communication between scientists and practitioners about their respective goals and interests will be critical to prevent time and resources being wasted. Given the challenges associated with conducting ‘translational science’, these important collaborations require infrastructure. The Strengthening Democracy Challenge (<https://www.strengtheningdemocracychallenge.org/>) collects and tests—within a unified framework—animosity-reducing interventions (among others) solicited from both researchers and practitioners. The Center for the Science of Moral Understanding (<https://www.moralunderstanding.com/>) has funded a cohort of scientist–practitioner teams to serve as a model for other partnerships seeking to develop scalable real-world interventions and novel scientific insights about partisan animosity.

Future perspectives

In the quest to develop more effective interventions for reducing partisan animosity, we highlight four considerations for future research: variation, replicability, scope and interdisciplinarity. See also the outstanding questions in Table 1 for future directions tied to the specific intervention themes.

Tuning interventions to audiences, issues and contexts. As no single intervention strategy is likely to reduce polarization for every audience and every issue, an overarching goal for researchers will be to determine what works for which outcomes, for whom and under what circumstances^{189,191}. Interventions combine both content and methods of delivery, which include the setting (for example, home, community centre or workplace), mode (for example, face-to-face or online), format (for example, workbooks or discussion groups), source (for example, researcher or community leader) and intensity (for example, total contact time or number of sessions). Different combinations of content and methods of delivery may be suited to the outcomes we have discussed (correcting misperceptions, highlighting commonalities, building dialogue skills and fostering positive contact). For instance, a one-shot, online computerized task could correct key misperceptions, whereas building dialogue skills might require face-to-face sessions from an expert source over an extended period.

Features of the audience that warrant consideration include individual differences in cognitive rigidity⁶⁸, moral conviction¹⁹² and curiosity¹⁹³, among many others. Democrats and Republicans may also differ in their response to interventions due to dispositional and normative differences between parties^{15–17,141}. The effectiveness of interventions may also vary between issues and contexts. Social issues elicit stronger emotional reactions and are more tied to core religious or moral convictions and group identities than economic issues, and they are thus liable to lead to more contentious debates¹⁹⁴. Features of the context such as the point in the electoral cycle¹⁹⁵ or even the outdoor temperature¹⁹⁶ could also influence the intensity of initial partisanship and, in turn, the impact of an intervention.

Table 1 | Outstanding questions

Intervention theme	Outstanding questions
Thoughts	
Correcting misconceptions—improving partisans' knowledge and understanding of their outgroup's attitudes, beliefs, behaviours and composition	What else besides motives and group composition do people have misconceptions about?
	Do these corrections carry more weight coming from an ingroup member, an outgroup member or a neutral observer?
	What are the effects of correcting misconceptions about ideological extremity on partisan animosity?
Highlighting commonalities—reframing partisan identity to encompass the outgroup	Are there other common ingroup identities that might yield better results?
	How can common identities be incorporated into daily life?
	Can certain identities be depoliticized by emphasizing common attributes?
Relationships	
Building dialogue skills—teaching partisans to communicate effectively across political divides	What other dialogue skills are there to reduce partisan animosity in intergroup contact?
	Are dialogue skills easier to implement in person or behind a screen?
Fostering positive contact—creating opportunities for partisans to engage with one another	In what context does getting people out of their bubbles work, and in what context does it not work (online versus in person)?
	How can we create scalable contact interventions on the internet without it backfiring?
Institutions	
Changing public discourse—addressing cultural and institutional factors that create hostile and polarizing environments	How can interventions best compete against attention-grabbing narratives that polarize?
	How can researchers address partisan animosity without fostering exaggerated perceptions of polarization?

Variation in the effectiveness of interventions arising from different content, methods of delivery, audiences, outcomes and circumstances could seem daunting. However, heterogeneity of intervention effects is the norm rather than the exception in behavioural trials¹⁹¹. Researchers will need to recognize, from the outset, that many interventions inevitably will fail. By understanding that variability in effectiveness is not a limitation of the research but rather a route to specifying the parameters that govern when an intervention does not work, researchers can begin to develop a database that can answer the practical question that readily occurs to observers: will this intervention work for this issue, this sample and this context?

Replicability and generalization. Concerns of replicability and generalization should be a priority for researchers, especially as they work with practitioners to implement their interventions. Some promising interventions may not replicate^{94,106}, including one study where asking people to explain complex policies reduced dogmatism⁹³ and another where proximity to the Fourth of July was associated with less animosity²⁰. As with any study, intervention studies may fail to replicate because of small samples, lack of preregistration and flexible participant exclusion criteria. However, even rigorous, well-powered studies may fail to replicate because of the

ever-changing political landscape—something that could be examined through longitudinal studies. Testing interventions beyond the United States²⁹ may be useful in demonstrating the generalizability of findings. Furthermore, related to the point above, failed replications may help researchers to identify contexts in which interventions are and are not effective.

Interdisciplinary collaboration. So far, the research space on interventions to reduce animosity has been confined to research silos in social and personality psychology, political science, sociology and communication. In addition to collaborating with organizations on the ground (discussed above), researchers could probably draw insights from other academic disciplines that focus on intervention research. For example, researchers in public health, behavioural economics and education have experience and expertise relevant to changing behaviour and norms¹⁹⁷.

Conclusion

Partisan animosity is a growing concern in the United States, prompting scientists and practitioners to examine its roots and potential solutions. We have attempted to synthesize this rich and quickly growing body of work. Although reducing partisan animosity may be difficult, we believe that it is useful for researchers and practitioners to ‘TRI’: aim to reduce partisan animosity by changing thoughts, building relationships and transforming institutions. Successful interventions help partisans gain more accurate perceptions of each other and recognize the similarities they share, teach them how to have productive conversations and create the conditions for encouraging cross-party interactions, and attempt to improve public discourse and transform political structures. To enact durable and scalable change, we also encourage practitioners to intervene to motivate and mobilize partisans to become actively involved in reducing partisan animosity. We hope that this review helps make sense of the variety of interventions and prompts future research in the field. Partisan animosity is powerful, but so is the potential for interdisciplinary work between scientists and practitioners to help overcome it.

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Additional information

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