REVIEWS

Cognitive–motivational mechanisms of political polarization in social-communicative contexts

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Abstract | Healthy democratic polities feature competing visions of a good society but also require some level of cooperation and institutional trust. Democracy is at risk when citizens become so polarized that an 'us versus them' mentality dominates. Despite a vast multidisciplinary literature, no coherent conceptual framework of the microlevel dynamics that increase or decrease polarization has been presented. In this Review, we provide a conceptual framework to integrate scientific knowledge about cognitive–motivational mechanisms that influence political polarization and the social-communicative contexts in which they are enacted. Ego-justifying and group-justifying motives lead individuals to defend their own pre-existing beliefs and those of their in-group, respectively. However, a distinct class of system-justifying motives contributes to asymmetric forms of polarization. Whereas conservative-rightist ideology is associated with valuing tradition, social order and maintenance of the status quo, liberal-leftist ideology is associated with a push for egalitarian social change. These cognitive–motivational mechanisms interact with social influence processes linked to communication source, message and channel factors, all of which might contribute to increased or decreased polarization. We conclude with a discussion of unanswered questions and ways in which our framework can be extended to the study of culture and institutions.

On 6 January 2021, thousands of supporters of President Donald Trump stormed the US Capitol in an effort to overturn his defeat in the 2020 presidential election. For years, pundits and observers had predicted that violence and democratic breakdown would inevitably result from the rise in polarization, 'tribal politics' and increasing hostility between those who hold liberal attitudes and those who hold conservative attitudes[1–3]. Even in the aftermath of the 'insurrection', which injured 138 police officers and killed five people, the American public remained deeply divided. Democrats felt the rioters should be prosecuted, whereas Republicans were ambivalent, with half of them stating that the riot received too much attention[4].

Some degree of ideological debate and partisan separation is to be expected and might be desirable to ensure that citizens' voices are well-represented by political elites[3,5–7]. At the same time, intense, seemingly intractable political conflict along multiple lines of divergence might threaten national unity and constructive opportunities for compromise[8–13]. One clearly deleterious consequence of polarization is that urgent matters that need not become politicized — such as addressing the public health crisis instigated by COVID-19

and individual decisions about mask-wearing and vaccination — become extremely contentious, leading to serious failures of social cooperation[14–18].

The concept of group polarization comes from experimental social psychology. It refers to the oft-observed tendency for members of a social group to arrive at a consensus (through group discussion and other forms of social interaction) that is more extreme but in the same direction as the average of their initial opinions on a given issue[19]. For example, groups that start out mildly risk-seeking become more risk-seeking over time, whereas groups that start out mildly cautious become more cautious over time. There are two classes of explanation for this phenomenon. The first has to do with persuasive argumentation: during group discussion, people are exposed to additional arguments in favour of the position that the average group member was already inclined to take[19,20]. The second focuses on social comparison processes and conformity to perceived group norms: individuals in a group conform to what they perceive as the group norm. This perception, however, might be exaggerated to maintain group distinctiveness and enhance contrast with other groups[21–24]. Thus, from a social psychological perspective, group polarization is

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a dynamic property of a single social group — a shifting of group behaviour over time in a more extreme direction, but in the same direction in which the group started. It is not, strictly speaking, a property of individuals, although the concept of polarization has been extended, by analogy, to individual-level processes, such as the tendency for individuals to become more extreme in their own thinking[25] or the strength of their group identification[26].

The concept of polarization is also used to characterize states or trends in the conditions of intergroup relations. That is, polarization may refer to a large or increasing gap between two or more groups. This has clear relevance to politics, which often involves group-level competition over policy issues and/or ideologies. For example, there is a strong consensus among scholars of politics in the USA that liberal and conservative political elites (including members of Congress, party activists, donors and judicial appointees) have grown increasingly polarized over the past few decades[27–34]. At the same time, the extent to which elite-level polarization has influenced the belief systems of ordinary citizens remains a matter of debate[8,27,35–40].

The body of literature on mass political polarization in the USA has yielded mixed findings: ordinary citizens are deeply divided[9,31,35,41–49] or they are not[10,29,36,50–54]; polarization poses a huge threat to democratic functioning[3,11,55], is not a problem at all[13,56–58] or the nature of the threat is ambiguous[7,59,60]. These mixed findings reflect a literature that has been vague in identifying precise psychological mechanisms and how they operate across social-communicative contexts[61].

In this Review, we provide a conceptual framework for organizing the literature on mass political polarization that can help scholars and practitioners to understand the conditional nature of different types of polarization better, and whether they stem from normatively concerning dynamics. We first describe the three major operational definitions of mass polarization and their relations to each other. Then, we describe the cognitive–motivational mechanisms that give rise to political polarization, and how these play out in social-communicative contexts to increase or decrease the degree of political polarization in society.

In reviewing the literature, we sidestep the questions of whether citizens 'are' or 'are not' polarized and whether the degree of polarization in society has increased, decreased or stayed the same. The answers to such questions invariably depend upon somewhat arbitrary criteria. For example, it is unclear how much polarization is 'enough' to reach some categorical threshold or what time frame should be used to investigate trends. Because of space constraints, we are unable to cover various structural and institutional factors[62] — including demographic shifts[63], party systems and electoral rules[64], and economic performance and inequality[65,66] — that may influence levels of elite and mass polarization over time. We focus primarily on the US context, because this is where the vast majority of the relevant research to date has been conducted. However, high levels of political conflict have been reported in other countries, especially in Europe[12,60,65,67–71].
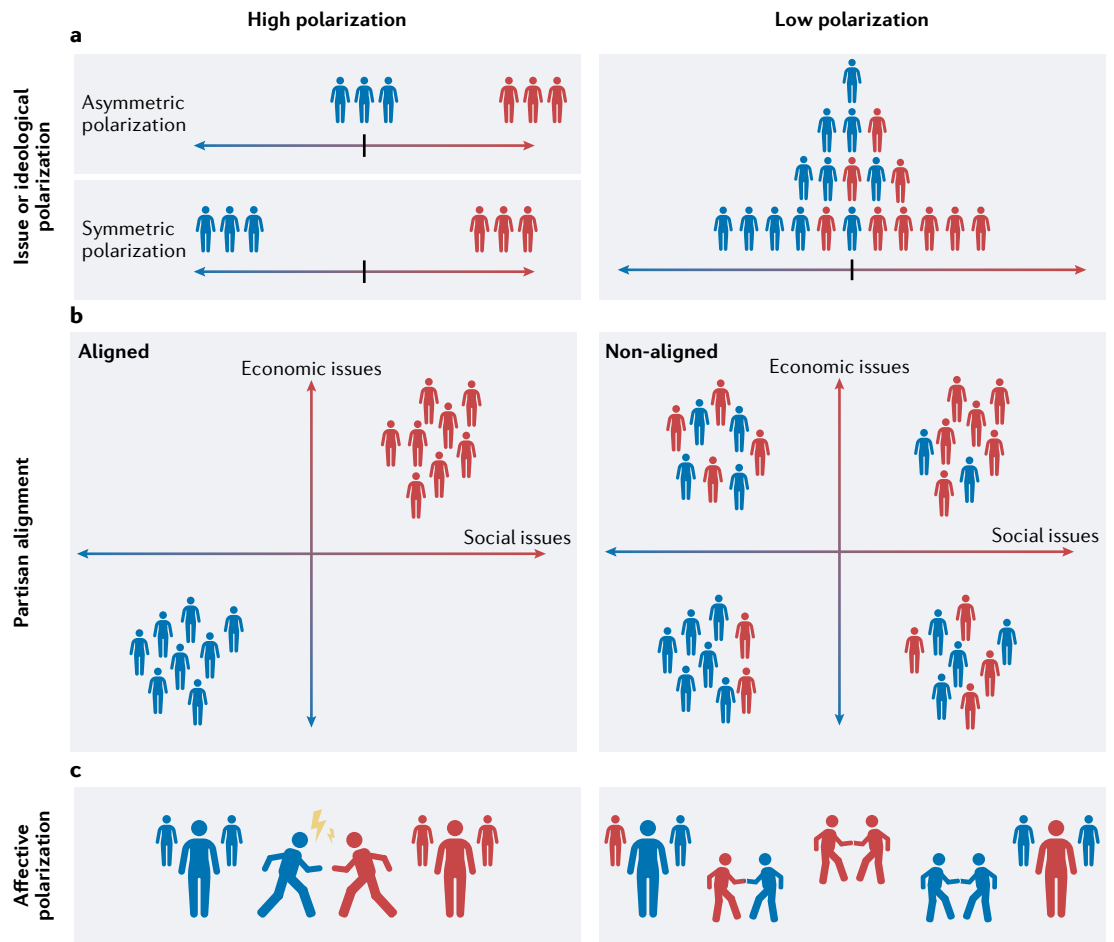
Types of mass political polarization

Mass political polarization occurs when individuals become more divided in their political views or develop stronger, more intense group attachments. There are three operational definitions of mass political polarization (see FIG. 1), which might differ in terms of whether they are psychologically underpinned by cognitive, motivational or affective concerns.

First, issue or ideological polarization (FIG. 1a) is characterized as moving towards the extremes and away from the centre with respect to issues and/or ideology[29]. This type of polarization is typically operationalized as approaching or arriving at a bimodal distribution of beliefs, opinions and values[50,72]. This implies either that two groups — such as liberals and conservatives or leftists and rightists — are moving in opposite, more extreme directions (symmetric polarization) or that one group is becoming more extreme than the other (asymmetric polarization)[10,34,47,48,73–75].

Second, mass polarization in terms of partisan alignment (FIG. 1b) focuses on the dimensionality of the political space. Political parties are usually based on social and/or cultural cleavages[62,64,76]. In pluralistic political systems, there are often crosscutting cleavages, such as those based on social class, region or religion. These cleavages might provide opportunities for cooperation on some issues, such as when poor members of different religious groups work together on economic issues, while dividing alliances on other issues, such as moral questions, for which cleavages based on religion may trump those based on class. Sometimes multiple lines of potential disagreement in society become highly overlapping, aligned or consolidated. In these cases, multiple potential cleavages might be reduced to a single dimension that comes to dominate political relations[8,72,77,78]. Put another way, members of a group (such as a political party) might come to share similar views across many different issues, so that these issue positions do not crosscut group membership. Operationally, researchers often measure partisan alignment in terms of consistency (or 'constraint') among issue domains (for example, whether correlations among attitudes on economic, civil rights and moral issues have increased or decreased). Thus, extreme differences between groups might arise not from movement on a single dimension (such as left–right ideology) but from the alignment or consolidation of multiple dimensions[77], such that the same constituencies (or segments of society) are in repeated disagreement over many issues. Intense conflict might arise when many possible differences of opinion reduce to a single 'us versus them' dimension[11].

Finally, affective polarization (FIG. 1c) occurs when members of different social groups (or political parties) hold strong positive or negative attitudes (or feelings) about the groups themselves (not just their policy preferences[49,79]), owing to 'in-party love' and/or 'out-party animus'[80]. (It may be that people do not necessarily hold negative attitudes towards out-party members in particular, but rather towards any person or group that is highly partisan[54].) Operationally, affective polarization is often measured with the use of 'feeling thermometers' that tap warmth versus coldness towards

Fig. 1 | **Three types of mass polarization. a** | High issue/ideological polarization occurs when one (asymmetric) or both groups (symmetric) move towards the extremes and away from the centre with respect to issues and/or ideology. There is low issue/ideological polarization when most people hold moderate positions and there is considerable overlap between groups. **b** | Partisan issue alignment occurs when groups neatly divide over many issues. Low alignment occurs when the issue preferences of various segments of society are crosscutting. **c** | Affective polarization occurs when members of different groups (or parties) hold starkly positive feelings about members of their own group and/or starkly negative feelings about members of the other group(s).

political parties or ideological groups. Here the focus is not necessarily on issues (such as taxes or abortion) or ideology (liberal versus conservative) but rather on affective group evaluations. In principle, one could hold extremely conservative views without hating the Democratic party or vice versa[81].

Thus, all three types of polarization (issue or ideological polarization, partisan alignment and affective polarization) can lead citizens to understand politics and society in terms of 'us versus them', with potentially deleterious consequences for intergroup relations. A major conclusion of our Review is that these different types of polarization can become mutually reinforcing. For example, analysis of data from the American National Election Studies from 1984 to 2012 showed that attitudes about social welfare policy and, to a lesser extent, abortion and gay rights, were strongly predictive of negative feelings about the opposing party and its presidential candidates[48]. This suggests that issue polarization can fuel affective polarization. In another research programme, polarization on values in the first

wave of a survey predicted affective polarization four years later, adjusting for value polarization during the second wave[82].

Likewise, ideological polarization in general — not just on specific issues or values — can drive affective polarization. In a large-scale experiment, participants read about two hypothetical political candidates who were represented as either slightly liberal and slightly conservative (in the convergent condition) or as very liberal and very conservative (divergent condition). In feeling thermometer ratings, participants were more affectively polarized in the divergent condition, expressing more warmth towards the more extreme candidate whose ideology they shared and less warmth towards the more extreme candidate whose ideology they did not share. This effect was stronger for participants who were more interested in politics and more ideologically extreme themselves[83]. Another series of experiments demonstrated that learning about policy disagreements between rank-and-file Democrats and Republicans made partisan identities more salient and caused

participants to express more warmth towards in-party members and less warmth towards out-party members[81].

Partisan alignment can also influence affective polarization. For example, citizens who take more issue positions on the same side of the ideological spectrum as their party (that is, are more aligned) exhibit more out-group animus and affective polarization, adjusting for many other factors[84].

Just as issue or ideological polarization and partisan alignment can exacerbate affective polarization, affective polarization can exacerbate issue or ideological polarization and partisan alignment. For instance, people were more favourable towards a policy proposal when it was described as coming from the in-party rather than the out-party[85], suggesting that general group-based attitudes drove issue preferences, thereby leading to issue polarization. However, follow-up research indicated that this was true for Republican but not Democratic supporters[86].

Stronger evidence that affective polarization can generate issue polarization comes from a study demonstrating that out-party animus measured prior to the COVID-19 outbreak was a strong predictor of issue polarization concerning 'stay-at-home' orders and other pandemic-related policies, even after adjusting for partisanship[15]. Furthermore, partisanship exacerbates issue-based conflict[27], and party activists are capable of pushing candidates to take more extreme positions on issues over time[37]. Strongly identified partisans (who tend to be affectively polarized) exhibit more alignment than weakly identified partisans[38]. Moreover, longitudinal research demonstrated that ideological consistency at time 1 predicted affective polarization at time 2, and affective polarization at time 1 predicted ideological consistency at time 2, all other things being equal[82,87].

These observations about the ways in which different types of political polarization amplify others are consistent with social identity theory, which emphasizes the tendency for people to sort themselves into distinct groups that compete for symbolic and material resources[88–92]. Once categorical boundaries between 'us and them' are drawn, a whole host of destructive social psychological processes may kick in, including stereotyping, prejudice, in-group favouritism, out-group derogation and even dehumanization[3,55,93–95].

Cognitive–motivational mechanisms

We propose that there are at least three general classes of psychological mechanism that contribute to political polarization. These mechanisms are best characterized as cognitive–motivational, insofar as they involve the goal-directed (motivational) use of information processing (cognition), as described in several classic social psychological theories[88,96,97]. Ego-justifying mechanisms involve the self-serving tendency to advance and maintain one's own pre-existing beliefs, opinions and values and to defend against information that might contradict any of those[98,99]. Group-justifying mechanisms, which are central to social identity theory[88,90,91,94], involve group-serving tendencies to advance and maintain the interests and assumptions of the in-group against one or more out-groups ('us versus them'). System-justifying

mechanisms, which are often overlooked in social psychological analyses of political polarization, reflect the fact that some individuals and groups are motivated to preserve the status quo — and to resist various forms of social change — while others are motivated to challenge or improve upon it[100,101]. Once groups are ideologically polarized (that is, extreme), their members may engage in 'normal' or 'cold' cognitive processes, possibly including Bayesian updating, to maintain or exacerbate motivated differences in beliefs, opinions and values[61,102–105]. As a result, they may exhibit cognitive rigidity — psychological inflexibility and a failure to adapt to novel environments and unfamiliar ways of thinking[106,107].

Ego justification

Social psychologists have long argued that people are driven to maintain or enhance cognitive consistency and congruence among beliefs, opinions and values[108,109]. Consistent with this argument, there is abundant evidence that since the 1960s those who endorse liberal attitudes have increasingly joined the Democratic Party, and those who endorse conservative attitudes have increasingly joined the Republican Party[35,110]. Consequently, the correlation between partisanship and ideology has risen from roughly $r = 0.4$ in 1988 to $r = 0.6$ in 2012 (REFS.[47,91]). From a psychological perspective, the increasing alignment between relational (or identity-based) and ideological commitments could reflect a reduction in cognitive dissonance. That is, to maintain the integrity of their self-concept, people seek to reduce inconsistencies between self-categorization as a good group member, on one hand, and important beliefs, opinions and values, on the other. From a more macro-political perspective, increased alignment between partisanship and ideology reflects a 'sorting' process that increases intergroup conflict[35,38,77].

The desire for cognitive consistency (or belief congruence) also contributes to a wide variety of motivated reasoning processes in politics[102]. These include confirmation bias, in which people selectively seek out and attend to information that coheres with a desired conclusion (such as their pre-existing belief); biased assimilation, in which people assess the quality of new information based on whether it contradicts or supports a desired conclusion; and disconfirmation bias, in which people place greater scrutiny on, or actively generate counterarguments against, information that undermines a desired conclusion (TABLE 1). All of these mechanisms, which are sometimes grouped under the general rubric of 'myside bias'[111–113], can contribute to issue polarization, insofar as individuals often become more extreme in their opinions after selectively processing the evidence on specific topics such as capital punishment, immigration, healthcare policy or climate change[114,115]. The precise nature and extent of motivated reasoning on the political left and right is a topic of ongoing research[103,111,116–119].

Closely related to the phenomenon of myside bias are 'naive realism' and the objectivity illusion, whereby individuals assume, in a self-serving manner, that they process information in a more rational, impartial and accurate way than others do[120]. This, in turn, can lead to

Table 1 | **Ego-justifying and group-justifying biases that contribute to political polarization**

Bias	Definition	Empirical example
Selective exposure	The tendency to seek out and attend to information that is congruent, rather than incongruent, with some preferred conclusion (such as a pre-existing belief).	Republicans and those who held more conservative political views were more likely to read a news article attributed to Fox News, whereas Democrats and those who held liberal views were more likely to read a news article attributed to CNN or NPR[318].
Selective avoidance	The tendency to ignore or eschew information that is incongruent, rather than congruent, with some preferred conclusion (such as a pre-existing belief).	Republicans and those who held more conservative political views were less likely to read a news article attributed to CNN or NPR, whereas Democrats and those who held liberal views were less likely to read a news article attributed to Fox News[318].
Confirmation bias	The tendency to favour information that confirms, rather than contradicts, one's beliefs, assumptions or expectations, regardless of whether the information is true or not.	In a context in which partisan elites were polarized, Democrats evaluated weak evidence against oil drilling (for example, it creates regulation) to be more convincing when it was endorsed by other Democrats compared to when the same evidence was endorsed by Republicans or not endorsed at all[39].
Biased assimilation	The tendency to interpret new or mixed evidence in such a way that it is assimilated into one's pre-existing beliefs, assumptions or expectations.	Supporters and opponents of capital punishment were exposed to equivocal evidence about the deterrent efficacy of the death penalty; afterwards they became more extreme in their own views, interpreting the mixed evidence as more consistent with their view than with the opposing view[114].
Disconfirmation bias	The tendency to dismiss or discount evidence that contradicts, rather than confirms, one's beliefs, assumptions or expectations, regardless of whether the information is true or not.	People who were initially opposed to asylum seekers dismissed quantitative evidence suggesting that refugee housing does not increase the crime rate[319].
Objectivity illusion	The tendency for people to see themselves (and those on their 'side') as more rational and impartial and less biased than others.	Supporters of Donald Trump and Hillary Clinton believed that the other 'side' was more biased than their own; they were also more likely to conclude that their preferred candidate had won each of the presidential debates in 2016 (REF.[120]).
Bias blind spot	The failure to recognize the ways in which one's own thinking (and the thinking of others on one's 'side') is distorted by non-rational influences.	People rated themselves as less subject to various self-serving biases than the 'average American', seminar classmates and fellow airport travellers[121].
Backlash and backfire effects	The tendency to believe even more strongly in a proposition after its truth has been called into question by the evidence (versus before).	Republicans who were skeptical of anthropogenic climate change reported believing in it even less after being told about the scientific consensus on the issue[320].
Stereotyping	The endorsement or acceptance of fixed, categorical and over-generalized beliefs about the characteristics of a specific social group.	Republicans perceived Democrats as including a higher proportion of sexual minorities than is the case, and Democrats perceived Republicans as including more evangelical Christians than is the case[150].
Social projection	The exaggerated tendency to assume that other people are similar to oneself.	People who were themselves more ideologically extreme saw their political adversaries as more extreme than was actually the case[146].
Exaggerated misperceptions	The tendency to see the out-group as more intense in its negativity than is actually the case.	People who held liberal views perceived that conservatives were more hostile towards liberals than they actually were, and vice versa[95].
Partisan trade-off bias	The tendency to distrust out-group offers and to attribute malevolent intentions when political trade-offs are required.	Democrats and Republicans assumed that unintended, unavoidable side effects of policies proposed by the out-party (but not the in-party) were intended and desired[321].
Tribal corruption effect	The tendency to protect the in-group's reputation by suppressing immoral behaviour by an in-group member that is not publicly known, while distancing the group from publicly known transgressions.	People who are high in political 'identity fusion' seek to denounce public transgressions but suppress private transgressions committed by in-group members in an effort to manage their political party's reputation[140].

a failure to recognize the ways in which one's own thinking is distorted by non-rational influences (the 'bias blind spot'[121]). Paradoxically, the objectivity illusion can lead people to underestimate the epistemic confidence of their adversaries, by assuming that their adversaries are more aware of their own biases than they actually may be[122].

Additional cognitive–motivational mechanisms that may exacerbate issue polarization include other forms of reduction in cognitive dissonance, such as selective avoidance of counter-attitudinal information and motivated resistance to attitude change (see TABLE 1), both of which reflect ego-defensive motives to avoid inconsistency and maintain the individual's pre-existing beliefs, opinions and values[100,123–126]. For instance, Republicans who were consistently exposed to messages from a liberal Twitter bot exhibited backlash, expressing even more conservative opinions as a result[127]. This suggests the presence of ego-defensiveness: Republicans were not merely indifferent to liberal messaging but actively sought to combat it or to compensate for its anticipated effects. Exposure to a conservative bot did not meaningfully affect Democrats in this study. Other studies suggest that people might engage in counterfactual thinking about 'what might have been' in a creative but self-serving (or group-serving) manner in order to maintain their own pre-existing attitudes. For example, Donald Trump supporters felt that it was

less unethical to spread the falsehood that more people attended Trump's presidential inauguration than Barack Obama's presidential inauguration after pondering the counterfactual possibility that "If security had been less tight at Trump's inauguration, then more people would have attended it than Obama's inauguration," compared to an experimental condition in which this counterfactual was not raised[128]. Thus, people may rationalize the spread of misinformation through the biased use of information about 'what might have been'.

In terms of research interventions, reducing ego-defensiveness by encouraging people to affirm positive things about themselves sometimes helps to reduce information-processing biases[129,130]. Other intervention strategies focus on correcting misperceptions, encouraging more complex thinking, and reducing anger and competitive feelings[26,131,132]. Some of these techniques (reducing anger and competition) might reduce ego-defensive motivation itself, whereas others (correcting misperceptions) seek to undo the consequences of ego-defensive processing. However, the latter run the risk of provoking additional efforts at ego-justification if they are not implemented carefully and subtly[133,134]. Finally, cultivating a spirit of intellectual humility (responding generously and humbly towards others) could help to reduce political polarization by reducing ego-defensiveness[135–138]. However, these studies focused on relatively short-term changes; more research is needed to develop interventions that promote lasting forms of change.

Group justification
Layered on top of ego-justifying biases are group-justifying biases[99,139,140]. Processes such as self-categorization, in-group favouritism and out-group derogation contribute to political polarization by encouraging partisans to engage in various forms of motivated reasoning — including selective information exposure or avoidance and confirmation or disconfirmation biases — on behalf of their political party or ideological group[3,39,91,94,141–144]. For example, people may evaluate the same information more favourably when it supports (versus contradicts) the beliefs, opinions and values of one's political in-group[103,115,120]. Other studies suggest that when people are given the opportunity to censor the political out-group, many take it, even when the comments made by out-group members are inoffensive[145].

As noted above, 'us versus them' dynamics can result in stereotyping and false or exaggerated beliefs about the out-group[132,146–149]. In one study, Republicans overestimated the percentage of Democrats who were LGBTQ by 25 points, whereas Democrats overestimated the percentage of Republicans who were evangelicals by 20 points[150]. By exaggerating the prototypical characteristics of out-group members in these ways, ideologues increase the perceived social distance between different groups and might stereotype, discredit or marginalize the out-group. Partisans might also represent their adversaries as more obstructionist[95], more ideologically extreme[122,151–153], more prejudiced against the in-group[55], or more violent[154] than they actually are. Presumably, distorting images of the out-group as deviant, hostile,

stubborn, extreme and unreasonable serves to justify treating the out-group unfavourably[55,89,95,155].

These findings suggest that the mass polity might in fact be less polarized than people often assume[132]. Unfortunately, however, even 'false polarization' — which may result from the mechanism of social projection, whereby extremists see others as more extreme than they actually are — might become a self-fulfilling prophecy. That is, false polarization might increase affective and/or ideological polarization over time[156] because prejudice can arise from even the illusory perception of dissimilarity between in-group and out-group members[89,155,157]. By contrast, media coverage that is critical of polarization among political elites can reduce issue polarization among citizens, presumably because people do not want to be seen (by themselves or others) as extremists[122,158–160]. Many people, it seems, are amenable to having their misperceptions of the other side corrected, which lowers affective polarization[150,153,154].

System justification
Whereas ego-justifying and group-justifying motives contribute to relatively symmetrical forms of polarization on the liberal-left and conservative-right, a third class of cognitive–motivational mechanisms related to system justification might contribute to ideological asymmetries[99,149]. This is because system justification motivation — defined as the (not necessarily conscious) system-serving tendency to defend, bolster and legitimize aspects of the societal status quo — is generally correlated with political conservatism[101]. Consequently, those who endorse conservative attitudes exhibit stronger biases in favour of the status quo than those who endorse liberal attitudes. This asymmetry can have consequences for affective polarization, including stronger preferences for incumbent candidates and chief executives from one's own party (the 'President-in-power' effect) on the part of conservative (versus liberal) voters[161,162]. In addition, decades of research in political psychology demonstrate that those who embrace more conservative-rightist attitudes, identities and leaders are more authoritarian and social-dominance-oriented (that is, supportive of group-based hierarchies) than those who embrace more liberal-leftist attitudes, identities and leaders[107,149,163–169]. It is likely that respondents who believe that "What our country really needs is a strong, determined President who will crush the evil and set us in our right way again" (an item from the right-wing authoritarianism scale) and "Some groups of people are simply inferior to other groups" (an item from the social-dominance orientation scale), who identify as more conservative or rightist in political orientation, are more susceptible to out-group animus and affective polarization than the more liberal and leftist respondents who reject these sentiments[166,170].

In terms of ideological and issue-based differences, those who identify as more conservative and endorse more rightist attitudes place a higher value on tradition, social order and stability, and the maintenance of existing hierarchical social arrangements. By contrast, those who identify as more liberal and endorse more leftist attitudes place a higher value on equality and progressive

forms of social change[43,47,82,107,171–173]. For example, analyses of historical trends in public opinion from 1972 to 2016 reveal that Democrats were early adopters of more egalitarian views about gender, civil rights and gay rights, as well as more progressive on moral issues, whereas Republicans resisted these secular trends and were slower to change their attitudes[40]. This, in turn, contributed to an asymmetric form of polarization on some issues, such that Democrats shifted more rapidly than Republicans[174].

On other issues, the direction of asymmetric polarization is reversed. For instance, support for governmental regulation of the economy declined sharply among rank-and-file Republicans between 1984 and 2010, while it remained unchanged among Democrats[175]. Presumably, this reflects economic system justification, that is, the conservative defence of increasing inequality as fair and legitimate under the neoliberal regime[101,107,176–181]. Something similar has transpired with respect to belief in climate change, which has declined among Republicans and self-identified conservatives but not among Democrats and self-identified liberals[182,183]. Motivated skepticism about anthropogenic climate change is also tied to economic system justification

— that is, defence of the capitalist system[184,185] — which probably exacerbates climate change polarization as well as partisan and ideological alignment on both economic and environmental issues.

Finally, in-group favouritism, out-group derogation and refusal to compromise seem to be more strongly associated with conservative ideology and Republican identification in the USA than with liberal ideology and Democratic identification[10,73–75]. In line with this asymmetry, self-identified conservatives are more likely than liberals to exhibit the aforementioned 'President-in-power' effect; that is, to trust the government more when their own party (versus the other party) holds the White House[161,186,187]. These findings have clear implications for asymmetric polarization: in game-theoretic terms, people who embrace liberal ideology are more likely than those who embrace conservative ideology to 'cooperate', whereas the latter are more likely to 'defect'[107].

In summary, ego, group and system justification mechanisms contribute to ideological and issue polarization, partisan alignment and affective polarization. Those who endorse liberal and conservative attitudes exhibit ego- and group-justifying biases favouring themselves and the groups to which they belong, contributing to symmetric forms of polarization[99,140]. However, they differ in terms of system-justifying (versus system-challenging) motives, which might help to explain asymmetric polarization[10,34,47,48,73,74].

Social-communicative contexts

For political polarization (or depolarization) to occur, the cognitive–motivational mechanisms described above must play out in some social or political context[61]. To systematize our discussion of social-communicative contexts we invoke McGuire's[188] communication/persuasion matrix, which distinguishes among source, message, channel, receiver and target (or destination) characteristics as determinants of social influence[20,189,190]. A guiding assumption of this general approach is that the kinds of cognitive and motivational mechanisms described above play mediating (or, in some cases, moderating) roles in explaining, for instance, whether specific messages communicated by certain sources are persuasive — or, in the present context, serve to increase or decrease political polarization.

We focus on source, message and channel characteristics, because their relevance to group polarization is especially evident in the Internet era. There are also important receiver factors[107] (such as the ideological composition of the audience and their psychological characteristics) and target factors (such as whether the goal of the persuasive communication is to convince people to vote for a specific candidate or to storm the US Capitol building). Furthermore, in BOX 1 we discuss how behavioural norms, which need not involve explicit forms of communication, can affect different types of political polarization.

Source factors
The source of communication and/or persuasion is the person or group who is potentially capable of influencing others, whether they intend to or not. It can refer to elites, such as politicians and journalists, or to peers,

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Box 1 | **The role of behavioural norms in political polarization**

Descriptive social norms about what other people think or do and injunctive norms about what people ought to think or do are two major sources of social influence[322]. Both can lead partisans to feel socially pressured to hold particular opinions or enact certain behaviours. In one experiment, Republicans received a message indicating that a clear majority of fellow Republicans agreed that the climate is changing and are taking action to combat climate change. These individuals — relative to those who did not receive this message — were more likely to report believing in climate change and to have climate-friendly intentions[323,324]. In this case, information about descriptive norms served to reduce issue polarization concerning climate change, but the effects generally depend upon the message and topic.

Behavioural norms can also work in subtler ways, without formal communication, as on the basis of common knowledge (such as what one believes to be socially acceptable by others) or fear of being sanctioned for deviating from expected or prescribed behaviour. For example, Republicans were less likely to wear a mask in public during the COVID-19 pandemic if their neighbourhood had a higher (versus lower) proportion of fellow Republicans living in it[325]. However, the social context did not affect unobservable health behaviours such as vaccination, nor did it affect Democrats' behaviour with regard to any outcomes, including masking[325]. Because Democrats were more likely to wear masks in general[15], in this case the social norm contributed to asymmetric issue polarization. There is also evidence that people who hold conservative (versus liberal) attitudes are more likely to prioritize values of conformity and tradition; to possess a strong desire to share reality with like-minded others; to perceive greater within-group consensus when making political and non-political judgements; to be influenced by implicit relational cues and sources who are perceived as similar to themselves; and to maintain homogeneous social networks and favour an 'echo chamber' environment that is conducive to the spread of misinformation[326].

These and other studies[327,328] highlight the ways in which norms tied to social contexts such as geographic locations influence political preferences and contribute to polarization[329]. Whether political ideology and partisanship drive choices about where to reside remains a subject of debate[209,210]. In any case, many partisans in the USA appear to live in areas where they have little exposure to out-party members[211,330]. In addition, over the past three decades, Americans' personal networks have become smaller and more homogeneous in terms of political preferences, apparently because 'important matters' are increasingly framed as ideologically meaningful[204]. These developments have the capacity to exacerbate all three types of polarization, insofar as individuals bring their own political attitudes and beliefs into alignment with those who are spatially proximate[329,331] and tend to form negative impressions, including misperceptions, about those with whom they rarely interact[332].

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such as friends or family members. Sources are more effective in influencing others when they are perceived as in-group members[92] and as credible, trustworthy, powerful and/or attractive[188].

Elite signalling. Because citizens take social cues from political elites and are sometimes highly influenced by them[191,192], it is important to understand whether and how elite-level polarization spreads to ordinary citizens[8,35,36,50,193]. The preponderance of evidence suggests that it does. Elite polarization predated the rise of mass polarization in the USA by several years, suggesting that voters began to 'catch up' to party leaders over time[10,42,48]. This is true with respect to ideology in general as well as with respect to controversial issues such as climate change[194,195], abortion[196] and COVID-19 policies[197]. To be clear, we are not suggesting that citizens are merely passive sponges, mindlessly absorbing elite messages. Rather, consistent with cognitive response theories of persuasion[188,198], receivers actively respond to political communication, in accordance with their own psychological needs, motives and abilities[107].

Following political elites and being 'good group members' enables citizens to satisfy ego-justifying, group-justifying and (in some cases) system-justifying motivations. When elites signal ideological disagreement and/or out-group animus, followers get the message and behave accordingly. Consistent with this theoretical logic, several experiments have demonstrated that representing political elites as highly polarized (either in terms of ideological abstractions or specific issue positions) leads participants to express higher levels of issue-based and affective polarization[39,83]. Importantly, when the same political elites are described as less divergent, participants exhibit more overlap in their own policy opinions[141]. Exposing people to warm interactions between political elites from opposing parties also seems to reduce out-group animosity[58,199].

Social networks. Elites are not the only source of potentially polarizing or depolarizing communications. Social networks comprised of friends, family members and co-workers also influence individuals' political attitudes and behaviour[23,200–202]. Whether offline[202–204] or online[205–207], people tend to share information and discuss politics with like-minded others, but they are seldom completely cut off from disagreement[208].

The ideological homogeneity of social networks is enhanced by structural dynamics such as geographic sorting[209–211], the growing politicization of the rural–urban divide[212,213], and 'lifestyle' differences that are correlated with political orientation[107,214–216] (see also BOX 1). These geographic and cultural divisions are likely to limit exposure to 'the other side', especially among individuals who hold more conservative attitudes and are less open to new or different experiences[217].

Importantly, individuals play an active part in selecting and navigating their social networks. Much network homophily — the tendency for people to associate with similar others — is based on socio-demographic characteristics (such as race, education, income, age and gender). At the same time, there is evidence that ideological and partisan considerations inform the choice of friends, as well as business and romantic partners[218–221]. It is not entirely clear whether people are explicitly choosing interaction partners on the basis of political considerations or whether ideological homophily is a byproduct of associational patterns rooted in socio-demographic similarities[59]. This is an important question because the implications for polarization differ.

In complex societies, sorting along socio-demographic characteristics is unlikely to bring about complete ideological isolation. This is because most people have crosscutting identities. There are, for instance, wealthy, nonreligious progressive urbanites, as well as morally conservative, low-income ethnic minorities, and both are likely to encounter people who share some but not all of these characteristics, making it difficult for them to inhabit ideological bubbles[222]. If political considerations become the primary factor driving social relationships, however, people will become much more isolated and polarized along ideological lines[59]. This is because possessing ideologically homogeneous networks exacerbates issue and affective polarization, whereas having a heterogeneous network facilitates the correction of stereotypical misconceptions and decreases polarization[223–227].

People who hold more liberal attitudes may have more ideologically diverse online networks than people who hold more conservative attitudes[207,228]. Furthermore, an analysis of over 20,000 responses to the 2016 National Consumer Survey revealed that self-identified liberals in the USA are more culturally omnivorous than self-identified conservatives, insofar as they report a larger number and variety of cultural exposures in a wide range of domains, including movies, TV shows, live performances, music, magazines, websites, hobbies and beer brands, even after adjusting for the effects of age, income and regional differences in population density[217,229]. These results imply that, because of greater openness to new experiences[217,230] and more diverse social networks[207,228], individuals who embrace liberal ideology are more familiar with and knowledgeable about the cultural activities of out-group members than are individuals who embrace conservative ideology.

Many people avoid interpersonal conflict, which can be ego-damaging, without permanently modifying their social network. For example, during close election campaigns, people eschew political conversations with adversaries by skipping family reunions or shortening Thanksgiving dinners[231]. When contact is unavoidable, people engage in selective disclosure[232,233]. That is, they simply withhold their attitudes from people with whom they expect to disagree. This could result in pluralistic ignorance (an exaggerated appearance of homogeneity) because only certain political views are expressed, and disagreement is suppressed[233–236]. Thus, even among people who maintain reasonably heterogeneous online and offline relationships, ego-defensive mechanisms such as selective disclosure[145] (and selective censorship) could undermine the depolarizing potential of these networks. These mechanisms might also reinforce in-group norms by concealing within-group variability, potentially exacerbating other forms of alignment and polarization[143,237].

Channel factors

An important feature of the social-communicative context in which polarization and depolarization take place is the channel (or platform). For instance, participants in the 6 January 2020 insurrection attended an extremely combative, in-person 'Stop the Steal' event earlier in the day featuring a dozen live speakers in addition to Donald Trump. Other appeals to engage in polarization or depolarization may come from face-to-face conversations, church sermons, television commentators, newspaper editorials, internet news sources, or social media platforms. Some platforms are more emotionally arousing, while others are more effective in conveying accurate (or inaccurate) information[188].

Mass media. Elite signals are typically communicated to citizens through mass media channels that have changed immensely since the advent of cable television and the ideological segmentation of news content[238]. Politically engaged viewers, who are more attentive to elite cues[191], have increasingly tuned into cable and Internet news sources[239–242], while others have dropped out[243,244]. Exposure to ideologically driven networks (such as Fox News on the political right and MSNBC on the political left) exerts both persuasive[245,246] and reinforcement effects[247]. The former occurs when, for instance, Independents who view Fox News are convinced to support a Republican candidate. The latter occurs when Republicans who view Fox News become even more likely to vote for a Republican candidate. Partisan media exposure also increases issue polarization, especially among viewers who are already fairly extreme in their views[248].

Archival research reveals that mainstream media coverage of Democratic elites' support for climate action stimulated resistance and even backlash (decreased support) among Republican voters[144]. Likewise, exposure to same-party and other-party messages on partisan media platforms often increases affective polarization, in the latter case because of resistance to change and the spontaneous generation of counterarguments[249]. Thus, out-party cues often repel citizens while in-party cues tend to attract them. In this way, ego- and group-justifying motives exacerbate issue polarization when viewers are aware of partisan or ideological disagreement. Such circumstances also make individual and group differences in system justification motivation more predictive of political behavior and more salient to political actors by drawing attention to the fact that some people are driven to defend the status quo while others are driven to challenge it[101,107,171,172,250–252].

Some Americans have 'tuned out' of politics in recent years[243,244], which might suggest that the effect of the mass media on polarization has dwindled[240,242]. However, polarization effects can still spread through a two-step communication process whereby individuals who have been exposed to partisan media influence co-partisans who have not been directly exposed (FIG. 2), thereby increasing overall levels of attitudinal extremity[253].

Social media. Social media platforms not only amplify the impact of messages transmitted by elite sources through mass media. They also create new and unprecedented
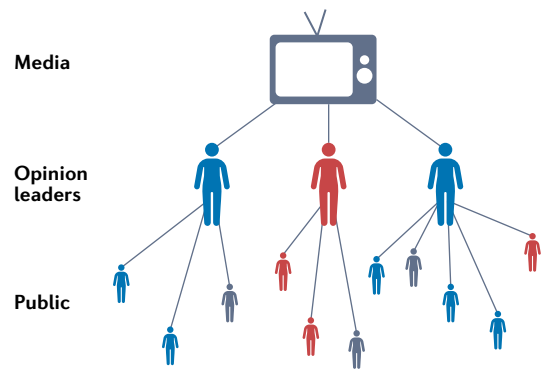
Fig. 2 | **Two-step flow model of polarization.** Polarization effects may spread through a two-step communication process whereby individuals who have been exposed to partisan media influence co-partisans (and others) who have not been directly exposed.

opportunities for friends, acquaintances, and other members of extended social networks to share information and misinformation — as well as emotional and motivational appeals, including those grounded in shared group identities and ideologies — in overtly political contexts[254].

Much has been written about how Internet and social media platforms exacerbate political polarization[70,127,231,255–263]. Personalized machine-learning algorithms and the freedom to choose content tend to increase the likelihood of selective information exposure to previously unimaginable levels. Thus, many worry that social media platforms are merely becoming ideological echo chambers in which people who are strongly motivated by ego-justifying, group-justifying or system-justifying (or system-challenging) goals seek out like-minded others[261,264,265]. At the same time, it is important to bear in mind that patterns of online ideological segregation resemble offline patterns of media consumption[205], and most social media users are exposed to reasonable levels of ideological heterogeneity[206,207,257,266–268].

However, there is clearly a market for political misinformation[255], and technology companies such as Twitter and Facebook profit from the spread of 'fake news', which increases customer engagement and therefore advertising revenue[256]. These market incentives both reflect and exacerbate ideological and affective forms of polarization, insofar as emotionally charged material, such as that which is contemptuous of ideological adversaries, is more likely to go 'viral' than more measured types of political discourse[260,263,269,270].

Experimental approaches have been especially useful for documenting the polarizing effects of different types of social media usage. In one study, a randomly assigned group of Facebook users deactivated Facebook for four weeks prior to the 2018 USA midterm election. When compared to a matched control group, deactivation reduced issue polarization, and to a lesser extent, affective polarization[271]. These effects might be due in part to the fact that deactivating social media accounts decreases exposure to fake news[256].

In another experiment, thousands of Facebook users were randomly assigned to subscribe to liberal or conservative news outlets for at least two weeks[259].

Results of the study confirmed that Facebook's algorithm limits exposure to counter-attitudinal news in general, but when participants were assigned to receive counter-attitudinal news they were willing to read and share it. Although exposure to counter-attitudinal news did not change participants' political opinions, it did reduce affective polarization (compared to a control group), possibly because instructions to participants stressed that new and valuable perspectives would be presented, which might have quelled ego-justifying, group-justifying and system-justifying motives.

Because issue and affective polarization have increased most among demographic groups (such as the elderly) that are less likely to use the internet and social media platforms, the authors of one study[272] concluded that social media was unlikely to be a major driver of polarization. However, this conclusion was based on a design in which individual social media usage was not measured or manipulated, and so could be subject to the ecological fallacy (drawing inappropriate inferences about individual behavior on the basis of aggregate trends[261]).

Some studies suggest that social media platforms are frequently used to spread out-group animosity, thereby exacerbating affective polarization[261]. For example, an analysis of nearly 600,000 Facebook posts and more than 200,000 Twitter posts by media outlets on the political left (such as the *New York Times* and MSNBC) and political right (such as Fox News and Breitbart) found that posts mentioning the political in-group were shared more often than other posts (with estimated increases in diffusion rate ranging from 0% to 37%). However, posts mentioning the out-group were even more likely to be shared (with estimated diffusion rate increases ranging from 29% to 57%[260]). Sentiment analysis of messages about the out-group revealed that they frequently expressed negative emotions such as anger, moral outrage and mockery. A follow-up study of more than 800 Facebook posts and a million Twitter posts from the official accounts of members of the US Congress showed that messages mentioning the out-group, but not the in-group, were more likely to be shared than other posts (increased diffusion rates ranging from 58% to 180%[260]). Retweets often included anger-related language[260]; this is important because anger inflames political polarization by, among other things, increasing cognitive oversimplification and categorical thinking that divides 'us' and 'them.'[132].

Message factors
Message factors refer to the style and content of a communication, such as rhetorical and other characteristics of a message that make it more or less likely to produce polarization or depolarization. For example, some appeals are based on emotion, while others are based on logic; still others construct compelling narratives based on single events or familiar tropes, and political actors engaged in social influence attempts often frame their arguments strategically or opportunistically to increase the likelihood of achieving their political goals.

Framing. Framing occurs whenever a political actor (such as a candidate or opinion leader) highlights a subset of relevant considerations about an issue, candidate or event, leading their audience members to think about the topic in a particular way[273–275]. Several studies show that stressing certain values can change support for specific issues. For example, framing environmental issues in terms of conservative values such as purity, sanctity, commerce or patriotism might lead conservatives to express more support for pro-environmental legislation[275–279]. Abstract rhetoric used by in-group members may also increase alignment between values and identities. For instance, Republican elite discourse has for decades emphasized traditional family values and resistance to social change, and this seems to have increased the correlation between partisanship and ideology more steeply among Republican than Democratic voters[47].

Message frames can shift the salience of group identities and therefore the basis for group-justification. For example, Democratic parents express very different social and political attitudes when their status as parents (as compared to their status as Democrats) is made salient[280]. The parental frame resulted in issue depolarization: Democrats expressed attitudes that were more similar to those of Republicans when their parental identification was made salient compared to various other experimental conditions (such as when their partisan identity was made salient). Likewise, emphasizing a superordinate national identity can reduce out-group animus as well as affective and ideological polarization[281–283], consistent with social identity theory[90,92,139].

Frames can also shift perceptions of the social system and therefore the basis for system justification. For example, describing the USA as a 'nation of immigrants' would have very different implications for ideology and public opinion than describing it as a white-majority country or one 'settled' by Europeans. Different ideological groups are likely to defend and justify different aspects of the overarching social system. For instance, in 2016, Donald Trump supporters were more likely to justify economic inequality under capitalism and gender disparities under the patriarchal social order, in comparison with supporters of Hillary Clinton, but they were not more likely to justify the general social system in the USA following eight years of Barack Obama's presidency[284].

Representations of nationalism and national identification might serve as 'master frames' that shape collective self-understanding[285,286]. Prior to 2000, Democrats and Republicans differed little in terms of nationalist beliefs, but as of 2016 they held very different conceptions, apparently because of 9/11, the wars in Afghanistan and Iraq, and racial resentment in response to Barack Obama's presidency[286]. By framing patriotism in politically conservative terms, Republican elites appear to have increased the alignment between Republican partisanship and nationalist values. Experimental studies suggest that increasing system justification motivation may, in some cases, raise the national attachment levels of people who hold liberal views so that they more closely resemble those of people who hold conservative views, thereby temporarily reducing polarization on issues of patriotism — but not nationalism, defined as an attitude of superiority towards other countries[282,287–289].

Finally, valence framing (highlighting positive or negative aspects or themes) can contribute to polarization or

depolarization under certain circumstances. For example, when multiple media sources are available, negative campaigning against one's political opponent — compared to positive campaigning for oneself — increases affective polarization[290]. At the same time, exposure to overly confrontational, uncivil discourse from members of one's own party can lead to depolarization; this is because citizens view such rhetoric as norm-violating and wish to distance themselves from the source of the message[249].

Message framing has the potential to reduce polarization to the extent that it assuages ego- and group-justification motives by, for example, alleviating personal or collective insecurity, or taps into system-justification motives by appealing to patriotic traditions. However, some frames may increase polarization by eliciting ego- or group-defensiveness, accentuating categorical differences between groups, or highlighting individual and group differences in system-justifying (or system-challenging) attitudes. Unfortunately, there are often political incentives for partisan elites to exploit the more polarizing strategies of message framing to maximize support and turnout among their staunchest constituents.

Narratives. Political communication often takes a narrative format in which events are described in chronological order alongside information about key characters and their actions[190,291]. Many of these narratives provide moral lessons or takeaways[292]. For instance, narratives about marginalized groups, such as struggle-oriented stories about immigrants, can counteract system justification tendencies that might otherwise discount or disparage immigrants' experiences[293–295]. In addition, giving people an opportunity to participate in a 'non-judgemental exchange of narratives' was found to increase feelings of warmth towards unauthorized immigrants and transgender people, compared to various control conditions (no opportunity for exchange and/or participation in a brief, unrelated conversation). The narrative exchange also increased support for inclusive public policies, compared to control conditions, and therefore reduced issue polarization[296].

The impact of narratives may depend upon the source, or narrator. In one experiment, for instance, exposure to Joe Biden's storytelling increased support for social security among Democrats but not Republicans, thereby increasing issue polarization. However, the narrative did increase liking for Biden in all participants[291]. In general, sharing personal experiences rather than facts appears to foster respect and humanize politicians, even in the eyes of their adversaries, thereby reducing affective polarization[292,297]. Narrative techniques thus hold promise for bringing people together, but their effectiveness might raise other concerns. Personal stories can be manufactured or manipulated and are difficult to verify; to the extent that they are more influential than accurate information, they can be used to mislead followers and sow discord[298].

In summary, ideological and issue polarization, partisan alignment, and affective polarization (like all other outcomes of social influence) depend on who, what and how, that is, the source of communication, the particulars of the message and the channel or platform of transmission[20,188–190]. Some factors increase polarization, as when highly polarized elites stoke issue, ideological and affective polarization among voters, or when restrictive framing of nationalist messages increases partisan or ideological alignment with respect to immigration or foreign policy. Other variables contribute to depolarization, as when strategic framing of environmental values, activation of system justification motives at the national level, and sympathetic narratives about immigrants bring liberals and conservatives closer together (at least temporarily).

Summary and future directions

In this Review we have imposed conceptual structure on a vast and rapidly growing but fragmented, multidisciplinary body of scholarship on political polarization. Specifically, we reviewed evidence concerning the effects of cognitive–motivational mechanisms (ego-justification, group-justification and system-justification) in social-communicative contexts (as a function of source, channel and message factors) on three different operationalizations of political polarization (ideological/issue separation, partisan alignment and affective polarization). Unfortunately, the empirical literature has not advanced to the point that it is possible to hypothesize with precision how any given attempt at political communication will interact with cognitive–motivational mechanisms in specific social-communication contexts to influence polarization or depolarization. We have nonetheless identified the key variables that scholars may use in determining when various types of polarization are likely to arise and — if they deem the situation problematic — in devising depolarization interventions.

Furthermore, our conceptual framework suggests a blueprint for how to proceed. First, scholars must identify which circumstances are likely to trigger ego-justifying, group-justifying and system-justifying motives[99,101,299]. Second, although source, message, channel, receiver and target variables have been studied for approximately 70 years[188,189], we still know fairly little about how they interact with one another. For example, researchers should seek to understand how people reconcile conflicting information coming from political elites, social media platforms and face-to-face interaction with friends, and the degree to which the impact of specific narratives or message frames depends upon the source, the channel and the receiver.

Third, disentangling the myriad effects of competing social influences on political polarization will require careful attention to the cognitive and motivational mechanisms that mediate message reception. It is usual to offer psychological speculations, such as the supposition that partisan communication activates group-justifying motives or that conservative communication activates system-justifying motives — and we have engaged in such speculation here. However, few (if any) studies actually connect the dots (see, for example, critiques of existing research on motivated political reasoning[103,300,301]). This is a critical step for drawing definitive conclusions about how specific independent variables influence the three types of political polarization discussed here.

Box 2 | Comparative studies of political polarization

Cross-national comparisons of political polarization are complicated by variations in political systems and cleavage alignments. In the USA, there are three major cleavages on economic, civil rights and moral issues, with the moral dimension largely crosscutting the other two dimensions[40,77]. In European countries, there are longstanding territorial, religious and social class cleavages and more recent cleavages pertaining to globalization and integration with the European Union[333,334]. Despite these differences, the cognitive–motivational and social-communicative processes that contribute to polarization seem to be largely the same in the USA and Europe.

A case in point is the cleavage between those who supported the Brexit referendum and those who opposed it in the UK. Both sides exhibited ego-justifying and group-justifying biases that increased issue polarization on economic matters[335], and high levels of affective polarization ensued[336]. In Germany, opinions about whether to welcome asylum seekers became highly polarized, with opponents embracing system-justifying stereotypes and exhibiting motivated reasoning on the question of whether asylum seekers increase rates of criminal activity[319]. Similar patterns have been observed in the USA[294]. Anti-immigration attitudes were shaped by social-communicative processes, including elite rhetoric and partisan cue-taking[337]. All of this parallels polarization trends in other regions, including Europe[338], the Middle East[11], and Latin America[11].

Although it is beyond the purview of our analysis, it is important to keep in mind that levels of polarization (and their political consequences) depend on a number of contextual factors[65]. For instance, polarization led parties in power to enact constitutional reforms to consolidate their power in Hungary, Turkey and Venezuela, whereas power grabs in the USA occurred through the violation of democratic norms and refusal to compromise[11].

It is especially important to distinguish between states and trends when studying polarization in cross-national contexts. For example, there is evidence that ideological, issue and affective polarization have increased rapidly in the USA in the past few decades[339,340], but it is also true that levels of polarization in the USA are smaller than (or similar to) levels observed in other countries[65,341]. Historically speaking, polarization in the USA reflects social patterns that began with Southern realignment following civil rights legislation, the rise of single-issue interest groups, changes in campaign finance law, and the withdrawal of moderates from party politics and primary races, especially on the political right[10,27,31,34,37,72,342,343]. By contrast, the rise of polarization in Europe is largely attributed to anti-establishment movements and newly founded populist parties[67,344,345].

Fourth, our psychological framework cannot easily explain historically changing levels of polarization or elites' choice of communication strategies. This would require incorporating structural and institutional factors, such as economic performance, social or cultural cleavages across time, and variation in political systems. For example, the Republican Party's use of restrictive nationalist rhetoric in the twenty-first century[286] is almost certainly linked to demographic shifts (such as the relative increase in the non-white population[63]) in the context of a plurality electoral system with two major parties. It is, in principle, possible to layer structural and institutional variables onto our psychological framework, and this would facilitate comparative analysis of political polarization (BOX 2).

Fifth, although we began this Review by mentioning the Capitol insurrection on 6 January 2021, the precise connections among various forms of polarization, abandonment of democratic norms and principles, and

political violence are unknown. Research to date paints a confusing picture, with some studies indicating a negative relationship between affective polarization and support for democratic norms[302,303], and others finding no connection between the two[13,58]. Moreover, the literature on political violence[304] is largely disconnected from research on polarization. Understanding how polarization affects other political outcomes, including regime failure, is especially important for designing policy interventions[305]. One important question is whether depolarization efforts should be holistic or targeted at specific groups, such as right-wing extremists[306–309].

Finally, when it comes to democratic tolerance and other key outcomes, there are meaningful ideological asymmetries that should not be ignored. Whereas liberal-leftists are more willing to challenge the societal status quo and push for egalitarian forms of social change, conservative-rightists are more authoritarian and more protective of cultural traditions as well as longstanding social, economic and political institutions[101,107,149,166,168,172]. These differences in beliefs, opinions and values might well create asymmetries in all three forms of polarization, but more research is needed to link individual and group differences in system justification to political outcomes such as communication, persuasion, polarization and democratic commitment. Studies along these lines would help to illuminate the causes and consequences of dramatic asymmetries in the attitudes and behaviours of liberal-leftists and conservative-rightists in the USA and elsewhere[10,34,47,48,73–75,161,167,185–187,310–315].

The twenty-first century has brought with it a remarkable transformation of political life. Today more than half of Americans obtain political news from sources that either did not exist (such as social media) or were still emerging (cable news networks) twenty years ago[316]. Norms of engagement are still evolving and have yet to reach a stable equilibrium. A major challenge for future research is to identify ways in which partisans and ideologues can engage with one another constructively[317], rather than trafficking in hatred and the politics of provocation and backlash[127,258]. The latter style breeds political disengagement[244], placing the fate of democracy in the hands of a small, non-representative subset of citizens. Understanding and overcoming these dangerous dynamics requires that scholars and social scientists recognize the full range of cognitive–motivational mechanisms and social-communicative contexts that drive human behaviour in a world in which politics, for better or worse, plays an ever-greater part in so many facets of public and private life[107].

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