Politicians polarize and experts depolarize public support for COVID-19 management policies across countries

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Political polarization impeded public support for policies to reduce the spread of COVID-19, much as polarization hinders responses to other contemporary challenges. Unlike previous theory and research that focused on the United States, the present research examined the effects of political elite cues and affective polarization on support for policies to manage the COVID-19 pandemic in seven countries (*n* = 12,955): Brazil, Israel, Italy, South Korea, Sweden, the United Kingdom, and the United States. Across countries, cues from political elites polarized public attitudes toward COVID-19 policies. Liberal and conservative respondents supported policies proposed by ingroup politicians and parties more than the same policies from outgroup politicians and parties. Respondents disliked, distrusted, and felt cold toward outgroup political elites, whereas they liked, trusted, and felt warm toward both ingroup political elites and nonpartisan experts. This affective polarization was correlated with policy support. These findings imply that policies from bipartisan coalitions and nonpartisan experts would be less polarizing, enjoying broader public support. Indeed, across countries, policies from bipartisan coalitions and experts were more widely supported. A follow-up experiment replicated these findings among US respondents considering international vaccine distribution policies. The polarizing effects of partisan elites and affective polarization emerged across nations that vary in cultures, ideologies, and political systems. Contrary to some propositions, the United States was not exceptionally polarized. Rather, these results suggest that polarizing processes emerged simply from categorizing people into political ingroups and outgroups. Political elites drive polarization globally, but nonpartisan experts can help resolve the conflicts that arise from it.

COVID-19 | cross-country comparisons | political polarization | affective polarization | expertise

By the summer of 2020, the world had largely converged on two key COVID-19 policy aims: fewer cases and deaths (1) and more robust economic recovery efforts (2). Yet, policies designed to attain these goals were met with politically polarized responses worldwide, undermining broad public support (3–5). As with climate change, rising economic inequality, and other contemporary crises, human behavior both contributes to the spread of and is a solution to the COVID-19 pandemic (6). Political polarization undermines the cooperation required to enact behavioral change, posing an endemic barrier to effectively addressing such challenges (7, 8).

We suggest that polarized public opinion toward COVID-19 policies emerged globally merely because said policies were associated with opposing political parties and politicians. The polarizing impact of cues from political elites is often described as a pathology especially pronounced in the United States (9, 10). Theories developed to explain polarized reactions to political cues have been largely developed within, and thus tend to focus on, the United States (9, 11, 12). We contend that such American exceptionalism (13) is unwarranted and that these polarizing processes should occur wherever people form political ingroups and outgroups. We gauged public support for COVID-19 policies after manipulating whether policies were attributed to liberal or conservative political elites, with the experiment conducted simultaneously in Brazil, Israel, Italy, South Korea, Sweden, the United Kingdom, and the United States. This span of countries includes two-party and multiparty systems, liberal and conservative ruling parties, cultures that range in collectivism, differences in overarching political ideologies, and different experiences with the unfolding pandemic, as well as the stringency of policies enacted to manage it (see *SI Appendix*, Table S2).

Significance

Political polarization impeded public support for policies to address the spread of COVID-19, much as polarization hinders responses to other societal challenges. The present cross-country study demonstrates how the cues from political elites and affective polarization are analogous across countries addressing COVID-19. Far from being an outlier, the United States faces polarization challenges similar to those of other countries. Importantly, the results demonstrate that policies to combat public health crises are more supported when proposed by nonpartisan experts and bipartisan coalitions of political leaders. These results provide clear guidance on depolarizing communication strategies to improve global responses to health crises.

PSYCHOLOGICAL AND COGNITIVE SCIENCES

We reason that polarized public opinion in response to political elites reflects a widespread human tendency to categorize people into political ingroups and outgroups and to respond to cues from those groups (14, 15). This political categorization engenders social, affective, and cognitive processes that divide public opinion when proposals are associated with political identities (9, 16–18). The commonality of these processes should result in similarly polarizing effects across different countries. Understanding these effects within and outside the United States is therefore necessary for developing effective crisis communication strategies, thus fostering better responses to challenges like COVID-19.

Polarizing Political Elites. Prior research conducted in the United States shows that people react to policies based not only on their content but on the political identities of policy proponents. For instance, Democrats support climate policies proposed by Democratic politicians more than the same policies proposed by Republican politicians, and vice versa for Republicans (19–21). The polarizing influence of cues from politicians, parties, and other political elites can be so strong that people place "party over policy," with partisans favoring ideologically misaligned policies from their political ingroup over ideologically aligned policies from their political outgroup (19).

An underexamined question is whether political elite cues polarize public opinion in a similar way and to a similar degree in countries beyond the United States. Direct cross-country comparisons of the polarizing effects of political cues have proven challenging because countries face different politicized policy issues. For instance, research in the United States has examined how political elite cues polarize attitudes toward welfare policies (19) and climate policy (22–25), whereas research in other countries has examined infrastructure and drinking age policies (26). The shared experience of COVID-19 provides a unique and important opportunity to make possible a direct comparison of political elite cues.

Some researchers speculate that political elites may have a greater polarizing impact in the United States because of its greater degree of ideological and cultural sorting (17, 27), more polarized mainstream media (28), and more polarized political leaders (29). Yet, to the extent that political elite cues polarize because they tap widespread psychological processes arising from sociopolitical categorization, political cues should be similarly polarizing across countries. For example, partisan identification predicts identity-defensive political behavior more strongly than ideology, even in multiparty systems like Italy, Sweden, and the United Kingdom (30, 31).

Affective Polarization. An emerging explanation of why cues from political elites polarize public opinion is that people distrust, dislike, and feel cold toward those in the political outgroup while trusting, liking, and feeling warmly toward those in their political ingroups (8–10). Such affective polarization motivates negative behaviors toward opposing political groups, including hiring discrimination, prejudice, and reluctance to socialize with people from opposing political parties (8–10).

Researchers have suggested that affective polarization is larger in the United States than in other countries (9), contributing to the prediction that political elite cues should be more polarizing in the United States. We suggest, however, that affective polarization emerges from basic psychological processes following from the categorization of people into political ingroups and outgroups and should thus emerge across countries. The intergroup processes that arise from social categorization are pronounced when groups compete for power and status (32), as is true of political groups. Some evidence suggests that although the rate at which the United States has become polarized recently is greater than in other countries

(33) the overall level of affective polarization may be similar across countries (34).

Depolarizing Experts and Bipartisan Coalitions. The analysis that political elite cues are polarizing because of affective polarization leads us to expect that cues from nonpartisan experts and bipartisan coalitions will be less polarizing. People trust experts more than they trust politicians, especially more than outgroup politicians (35, 36). Experts are generally more persuasive than nonexperts (37, 38), partly because expertise increases perceived source credibility (39). Although conservatives are somewhat less trusting and more skeptical of experts than liberals (35, 36), people worldwide report high confidence that nonpartisan scientific experts act in the public's best interest (40). COVID-19 policies proposed by experts should therefore be supported more than policies proposed by either liberal or conservative politicians.

We similarly expect that COVID-19 policies from bipartisan coalitions of liberal and conservative elites will be supported more than policies from only liberal or conservative politicians. Ordinary people value political cooperation (41, 42) and are responsive to whether proposals are backed by trusted political elites (43, 44). Previous research suggests that people are more swayed by the stances of their fellow ingroup than outgroup members (22, 23), making it unlikely that the mere presence of outgroup politicians will completely dampen support for bipartisan policies. Examining policies proposed by bipartisan political coalitions thus allows us to assess whether bipartisan policies are supported similarly to ingroup policies, or if the presence of outgroup cues causes people to devalue those policies. We predict that both ordinary liberals and conservatives will support bipartisan-backed policies more than policies associated with the outgroup, given the presence of cues from trusted ingroup politicians.

Overview of Experiments. To test these predictions, we evaluated responses to COVID-19 management policies and the political groups that proposed them across seven democratic nations: Brazil, Israel, Italy, South Korea, Sweden, the United Kingdom, and the United States (see *SI Appendix*, Table S2). To examine the generality of effect and respondents' sensitivity to the type of policy, we included two policies, one emphasizing public health and one emphasizing economic outcomes. We also evaluated responses to a COVID-19 vaccine distribution policy among US respondents in a follow-up experiment.

The COVID-19 pandemic provided an important context for three reasons. First, COVID-19 confronted nations worldwide with similar policy concerns at about the same time, minimizing cross-country confounding of policy domains. Second, polarized public responses to COVID-19 policies were plausibly unexpected given that shared threats that require coordinated action, like the pandemic, should reduce intergroup animosity and increase cooperation (20, 22, 23). Also, because the coronavirus was novel, public opinion was not previously polarized on the issue. Finally, because most low- and middle-wealth countries require vaccine donations from wealthier nations to cover their vaccine needs (45), US residents' attitudes toward the distribution of vaccines abroad can meaningfully affect the world's COVID-19 recovery efforts (46). The second experiment allowed us to evaluate our hypotheses in a context involving a material good that is vital to global pandemic outcomes: the worldwide distribution of safe and effective COVID-19 vaccines.

Results: Cross-Country Evaluations of COVID-19 Management Policies

Partisan Elites Polarize. Respondent support for COVID-19 policies was measured on 7-point bipolar scales. As predicted, across all seven countries liberal respondents supported policies more in the liberal cues condition (mean $[M] = 1.05$) than in the
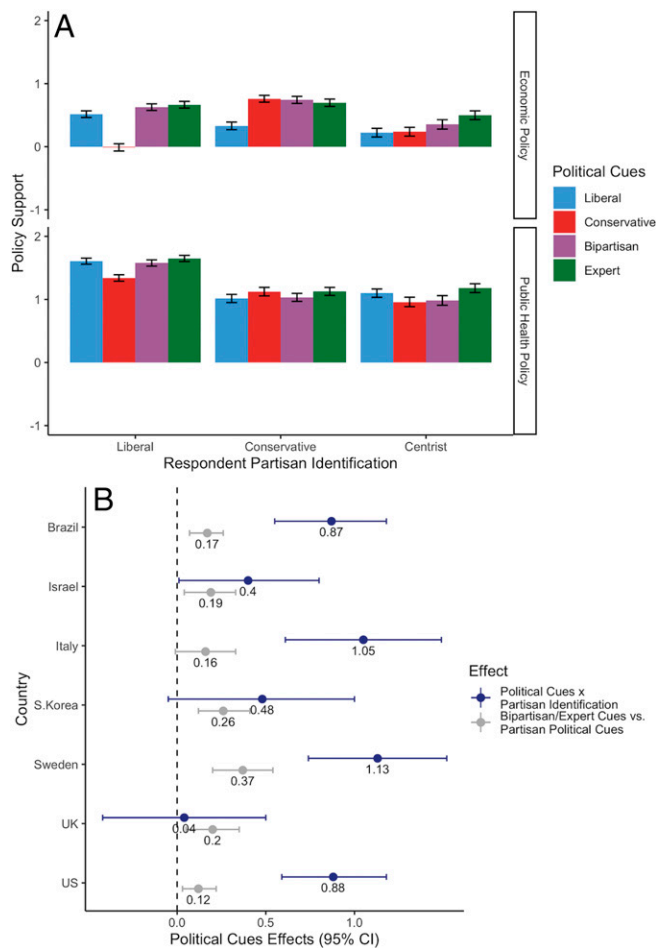
2 of 7 | PNAS
https://doi.org/10.1073/pnas.2117543119

Flores et al.
Politicians polarize and experts depolarize public support for COVID-19 management policies across countries

Fig. 1. Political cues polarize public opinion toward COVID-19 across countries and policies, whereas bipartisan coalitions and experts depolarize public opinion. (*A*) Average policy support for economic versus public health policies as a function of respondent partisan identification and political cues. (*B*) Cross-country forest plot of the effect of political cues, the interaction between liberal or conservative cues and liberal or conservative respondent partisan identification (blue markers), and support for policies by bipartisan coalitions and experts versus policies from only liberal or conservative elites (gray markers), averaging across respondent partisan identification. Error bars represent 95% confidence intervals.

conservative cues condition [$M = 0.66$; $B = -0.41$, $F(1, 11,958) = 51.96$, $P < 0.001$, $\eta_p^2 = 0.004$], and conservative respondents supported policies more in the conservative cues condition ($M = 0.93$) than in the liberal cues condition [$M = 0.66$; $B = 0.22$, $F(1, 11,958) = 12.22$, $P < 0.001$, $\eta_p^2 = 0.001$]. This polarized pattern produced a two-way interaction between respondent partisan identification (liberal or conservative) and the partisan cues manipulation [liberal or conservative; $B = 0.63$, $F(1, 11,958) = 54.83$, $P < 0.001$, $\eta_p^2 = 0.005$; Fig. 1*A*]. Centrists' support did not differ between liberal and conservative cues conditions [$B = -0.12$, $F(1, 11,958) = 2.06$, $P = 0.151$, $\eta_p^2 < 0.001$].

Respondents supported a policy emphasizing public health outcomes more ($M = 1.26$) than a policy emphasizing economic outcomes [$M = 0.49$; $B = -0.71$, $F(1, 11,958) = 642.67$, $P < 0.001$, $\eta_p^2 = 0.051$; Fig. 1*A*]. A significant three-way interaction [$B = 0.50$, $F(1, 11,958) = 8.79$, $P = 0.003$, $\eta_p^2 = 0.001$] indicated that the partisan polarization effect was larger in the economic emphasis condition [$B = 0.88$, $F(1, 11,958) = 55.53$, $P < 0.001$, $\eta_p^2 = 0.005$] than in the public health emphasis condition [where it was still significant; $B = 0.38$, $F(1, 11,958) = 9.55$, $P = 0.002$, $\eta_p^2 = 0.001$].

The partisan polarization effect emerged across countries and was not significantly larger in the United States ($P = 0.099$; Fig. 1*B*). Compared with the overall effect across countries ($B = 0.63$), the relevant interaction was significantly larger in Sweden [$B = 1.13$, $F(1, 11,958) = 32.04$, $P < 0.001$, $\eta_p^2 = 0.003$] and Italy [$B = 1.05$, $F(1, 11,958) = 21.98$, $P < 0.001$, $\eta_p^2 = 0.002$] and was significantly smaller in the United Kingdom [$B = 0.04$, $F(1, 11,958) = 0.03$, $P = 0.864$, $\eta_p^2 < 0.001$].

Across countries, liberal respondents supported COVID-19 policies more ($M = 0.99$) than did conservative respondents [$M = 0.85$; $B = -0.08$, $F(1, 11,958) = 7.80$, $P = 0.005$, $\eta_p^2 = 0.001$]. Notice, however, that the size of the difference between liberal and conservative respondents ($B = -0.08$, $\eta_p^2 = 0.001$) was substantially smaller than the size of the interaction between respondent partisan identification and political cues ($B = 0.63$, $\eta_p^2 = 0.005$). Results of the partisan polarization effect model are summarized in Table 1. At least as much as liberals and conservatives had polarized attitudes toward COVID-19 policies, the direction and magnitude of those differences depended on whether the policies were proposed by liberal or conservative political elites.

Experts and Bipartisan Coalitions Depolarize. Respondents supported policies proposed by nonpartisan experts and bipartisan coalitions ($M = 0.96$) more than the same policies proposed by only liberal or conservative elites [$M = 0.78$; $B = 0.20$, $F(1, 11,958) = 50.57$, $P < 0.001$, $\eta_p^2 = 0.004$; Fig. 1*A*]. Respondent partisan identification and political cues were collapsed into one factor (ingroup versus outgroup), excluding respondents who did not identify with either partisan group. Respondents reported lower support for outgroup elites' policies ($M = 0.66$) than for policies from bipartisan coalitions [$M = 0.93$; $B = 0.34$, $F(1, 9,394) = 65.16$, $P < 0.001$, $\eta_p^2 = 0.007$], experts [$M = 0.99$; $B = 0.40$, $F(1, 9,394) = 91.66$, $P < 0.001$, $\eta_p^2 = 0.010$], and ingroup elites [$M = 1.00$; $B = 0.32$, $F(1, 9,394) = 56.61$, $P < 0.001$, $\eta_p^2 = 0.006$]. Respondents did not differentiate between ingroup and bipartisan policies [$B = -0.03$, $F(1, 9,338) = 0.57$, $P = 0.448$, $\eta_p^2 < 0.001$]. Both expert and bipartisan policies were less polarizing than policies from either liberal or conservative elites, resulting in higher overall policy support.

The depolarizing effect of nonpartisan experts and bipartisan political elites occurred across countries (Fig. 1*B*). Compared with the overall effect across countries ($B = 0.20$), the depolarizing effect of expert and bipartisan policies was significantly larger in Sweden [$B = 0.37$, $F(1, 11,958) = 19.02$, $P < 0.001$, $\eta_p^2 = 0.002$], presumably because the polarizing effect of political cues was also larger in Sweden. These results suggest that across countries that vary on cultural, political, and demographic dimensions, foregrounding either liberal or conservative political elites polarizes public opinion whereas foregrounding experts and bipartisan coalitions prevents polarization.

Affective Polarization. Respondents across countries exhibited affective polarization. A one-way ANOVA on averaged feelings of liking, trust, and temperature toward liberal and conservative political elites and nonpartisan experts was significant [$F(2, 14,208) = 11,080.50$, $P < 0.001$, $\eta_p^2 = 0.609$]. Respondents reported negative affect toward outgroup political elites ($M = -1.76$) and positive affect toward both ingroup political elites [$M = 0.65$; $B = 2.22$, $F(1, 9,533) = 10,899.36$, $P < 0.001$, $\eta_p^2 = 0.533$] and experts ($M = 1.15$). Respondents reported more positive affect toward experts than toward ingroup political elites [$B = 0.66$, $F(1, 9,533) = 1,479.02$, $P < 0.001$, $\eta_p^2 = 0.134$; Fig. 2*A*].

Affective polarization emerged as large, significant effects in all countries (Fig. 2*B*). Compared with the average affective polarization effect across countries ($B = 2.22$) there were somewhat smaller effects in Brazil [$B = 1.22$, $F(1, 9,533) = 372.41$, $P < 0.001$, $\eta_p^2 = 0.038$], South Korea [$B = 2.05$, $F(1, 9,533) = 814.30$,
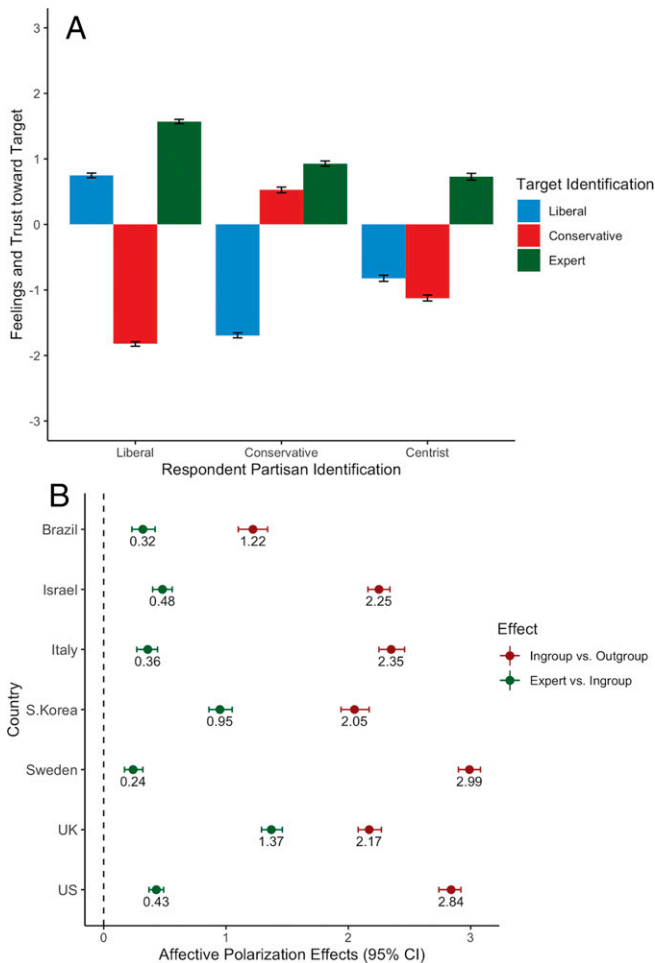
Flores et al.
Politicians polarize and experts depolarize public support for COVID-19 management policies across countries

PNAS | 3 of 7
https://doi.org/10.1073/pnas.2117543119

Fig. 2. Affective polarization. People reported negative sentiment toward outgroup elites and positive sentiment toward ingroup elites and especially toward experts. (*A*) Average feelings of trust, liking, and warmth toward liberal elites, conservative elites, and experts. (*B*) Cross-country forest plot of affective polarization toward ingroup elites versus outgroup elites (red markers) and affect toward experts versus ingroup elites (green markers). Error bars represent 95% confidence intervals.

$P < 0.001$, $\eta_p^2 = 0.079$], and the United Kingdom [$B = 2.17$, $F(1, 9,533) = 1,122.79$, $P < 0.001$, $\eta_p^2 = 0.105$] and larger effects in Sweden [$B = 2.99$, $F(1, 9,533) = 3,523.85$, $P < 0.001$, $\eta_p^2 = 0.270$] and the United States [$B = 2.84$, $F(1, 9,533) = 5,594.74$, $P < 0.001$, $\eta_p^2 = 0.370$]. Although the size of these effects varied somewhat across countries, the United States was not exceptional in affective polarization.

Affective polarization was correlated with policy support. Respondents' support for COVID-19 policy was regressed on their affect toward the group proposing the policy (using the average of affect toward liberal and conservative elites for bipartisan policies), controlling for political cue conditions, respondent partisan identification, and policy emphasis (see Table 2).* Respondents' policy support was significantly and positively predicted by their affect toward the policy proposer [$B = 0.20$, $F(1, 10,707) = 413.19$, $P < 0.001$, $\eta_p^2 = 0.037$]. This effect emerged across countries, with the effect being somewhat larger in the United States [$B = 0.25$, $F(1, 10,707) = 239.85$, $P < 0.001$, $\eta_p^2 = 0.022$] compared with the average effect across countries. Affective polarization helps explain why cues

*We excluded centrists from the analysis of affective polarization of ingroups and outgroups.

from political elites, nonpartisan experts, and bipartisan coalitions influence public support for COVID-19 policies. People support policies more when proposed by elites who they trust and toward whom they feel positive.

Results: US Support for International Vaccine Distribution Policies

The findings thus far demonstrate that cues from partisan elites polarize public opinion toward COVID-19 policy across countries and that these polarizing effects are correlated with affective polarization. In a follow-up experiment, we examined how these polarizing effects might continue to pose challenges as societies confront global public health issues. Consider questions surrounding the distribution of vaccines that were developed and secured in wealthier countries such as the United States with limited distribution in poorer countries. In addition to the loss of life and economic activity in unvaccinated countries, unequal vaccine distribution increases the global risk of new, vaccine-resistant variants of the virus (45, 46).

US respondents were asked to read one of two policies regarding international vaccine distribution. An American prioritization policy stated that because the United States had led vaccine development, it "should be able to distribute vaccines to its people before sending vaccines to other countries." An internationally

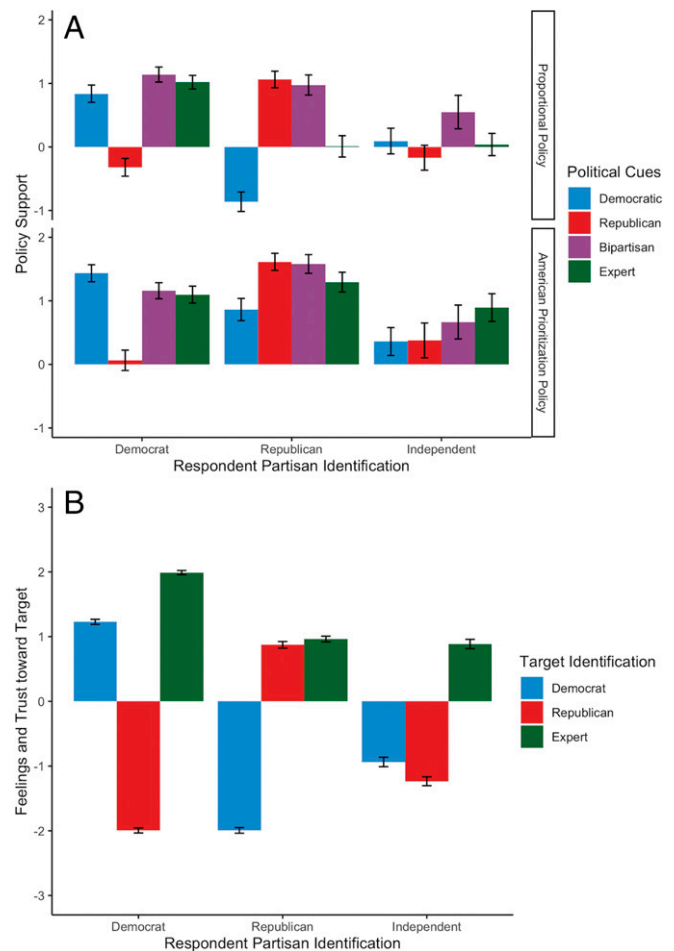**Fig. 3.** Political cues polarize public opinion in the United States toward vaccine distribution policies. (*A*) Average policy support for internationally proportional versus American prioritization policies as a function of respondent partisan identification and policy proponent. (*B*) Average feelings of trust, liking, and warmth toward Democratic elites, Republican elites, and experts, by respondent partisan identification.

Table 1. Multiple linear regression predicting respondents' COVID-19 policy support from contrast-coded predictors for political cues, respondent partisan identification, policy emphasis, and their interactions, including deviation coding for country

	Statistic				
Predictor	B	95% CI	SE	F	P
Political cues					
P1: liberal vs. conservative	−0.10	−0.18, −0.02	0.040	6.60	0.010
P2: bipartisan vs. expert	0.10	0.02, 0.17	0.040	5.89	0.015
P3: liberal/conservative vs. bipartisan/expert	0.20	0.14, 0.25	0.028	50.57	<0.001
Respondent partisan identification					
R1: liberal vs. conservative	−0.08	−0.14, −0.02	0.030	7.80	0.005
R2: centrist vs. liberal/conservative	−0.15	−0.21, −0.08	0.033	19.07	<0.001
Policy emphasis					
E1: Public health vs. economic	−0.71	−0.77, −0.66	0.028	642.67	<0.001
Interactions: political cues × respondent partisan identification					
P1 × R1	0.63	0.46, 0.80	0.085	54.83	<0.001
P1 × R2	−0.03	−0.21, 0.16	0.094	0.08	0.772
P2 × R1	−0.10	−0.26, 0.07	0.084	1.33	0.249
P2 × R2	0.14	−0.05, 0.32	0.094	2.17	0.140
P3 × R1	−0.17	−0.28, −0.05	0.060	7.67	0.006
P3 × R2	−0.05	−0.18, 0.08	0.067	0.50	0.481
Interactions: political cues × policy emphasis					
P1 × E1	0.12	−0.04, 0.27	0.079	2.24	0.134
P2 × E1	−0.06	−0.21, 0.10	0.079	0.54	0.462
P3 × E1	0.14	0.03, 0.25	0.056	6.37	0.012
Interactions: respondent partisan identification × policy emphasis					
R1 × E1	0.49	0.37, 0.61	0.060	66.83	<0.001
R2 × E1	−0.02	−0.15, 0.11	0.067	0.06	0.812
Interactions: political cues × respondent partisan identification × policy emphasis					
P1 × R1 × E1	0.50	0.17, 0.84	0.170	8.79	0.003
P1 × R2 × E1	0.08	−0.29, 0.45	0.188	0.18	0.672
P2 × R1 × E1	−0.03	−0.36, 0.30	0.168	0.03	0.869
P2 × R2 × E1	0.00	−0.37, 0.37	0.189	0.00	0.981
P3 × R1 × E1	−0.04	−0.27, 0.19	0.119	0.11	0.740
P3 × R2 × E1	−0.07	−0.33, 0.19	0.133	0.28	0.597

proportional policy stated that "other countries should not be punished for not having the means to fund vaccine trials" and that "vaccines should be distributed proportionally to country population size until 20% of each population is protected."

Partisan Elites Polarize, Experts and Bipartisan Coalitions Depolarize. Both Democrats and Republicans supported the American prioritization proposal more ($M = 1.05$) than the internationally proportional policy [$M = 0.43$; $B = 0.59$, $F(1, 2,400) = 68.10$, $P < 0.001$, $\eta_p^2 = 0.028$]. This difference was larger for Republicans ($M_{difference} = 1.07$) than for Democrats [$M_{difference} = 0.30$; $B = 0.77$, $F(1, 2,400) = 29.39$, $P < 0.001$, $\eta_p^2 = 0.012$], although there was no overall difference between Democrats' and Republicans' policy support [$B = 0.01$, $F(1, 2,400) = 0.03$, $P = 0.856$, $\eta_p^2 < 0.001$; Fig. 3A].

As predicted, Democratic respondents supported policies proposed by Joe Biden and Democratic policymakers ($M = 1.13$) more than policies from Donald Trump and Republican policymakers [$M = −0.15$; $B = −1.26$, $F(1, 2,400) = 82.30$, $P < 0.001$, $\eta_p^2 = 0.033$], and Republicans supported Republican policies ($M = 1.36$) more than Democratic policies [$M = −0.05$; $B = 1.34$, $F(1, 2,400) = 84.07$, $P < 0.001$, $\eta_p^2 = 0.034$]. These polarized patterns produced an interaction between respondent partisan identification and whether the policy was proposed by Democratic or Republican politicians [$B = 2.60$, $F(1, 2,400) = 166.33$, $P < 0.001$, $\eta_p^2 = 0.065$]. Independents' support did not differ between Democratic or Republican cues conditions [$B = −0.12$, $F(1, 2,400) = 0.30$, $P = 0.586$, $\eta_p^2 < 0.001$].

As in the first experiment, policies from nonpartisan experts and a bipartisan coalition enjoyed greater overall support ($M = 0.96$) than did policies from either Democratic or Republican elites [$M = 0.49$; $B = 0.42$, $F(1, 2,400) = 35.32$, $P < 0.001$, $\eta_p^2 =$ 0.015; Fig. 3A]. The direction of political polarization toward vaccine distribution policies depended on whether the policies were proposed by Democratic or Republican political elites.

Affective Polarization and Policy Support. Respondents reported negative affect toward outgroup political elites ($M = −1.99$) and positive affect toward ingroup political elites [$M = 1.07$; $B = 3.05$, $F(1, 2,026) = 4,042.54$, $P < 0.001$, $\eta_p^2 = 0.666$] and nonpartisan experts ($M = 1.42$), toward whom they reported more positive affect than toward ingroup political elites [$B = 0.43$, $F(1, 2,026) = 131.81$, $P < 0.001$, $\eta_p^2 = 0.061$; Fig. 3B][†]. A one-way ANOVA on affect revealed a highly significant effect of target [$F(2, 4,046) = 4,130.40$, $P < 0.001$, $\eta_p^2 = 0.671$]. In a multiple linear regression, respondents' support for a COVID-19 vaccine distribution policy was positively predicted by their feelings toward the group proposing the policy [$B = 0.36$, $F(1, 2,214) = 299.74$, $P < 0.001$, $\eta_p^2 = 0.119$], controlling for political cue manipulation, respondent partisan identification, and policy emphasis. These results demonstrate that the same processes that polarize public attitudes toward COVID-19 mitigation policies also influenced Americans' support for policies to combat COVID-19 globally through international vaccine distribution.

Discussion

COVID-19 laid bare both the difficulty and importance of establishing and maintaining broad public support for policies to address the pandemic. The present findings suggest that the

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[†]Independents were excluded from the analysis of affective polarization of ingroups and outgroups.

Flores et al.
Politicians polarize and experts depolarize public support for COVID-19 management policies across countries

PNAS | 5 of 7
https://doi.org/10.1073/pnas.2117543119

PSYCHOLOGICAL AND COGNITIVE SCIENCES

Table 2. Multiple linear regression predicting respondents' COVID-19 policy support from affect toward the group proposing the policy and contrast-coded predictors for political cues, respondent partisan identification, and policy emphasis, including deviation coding for country

Predictor	Statistic				
	B	95% CI	SE	F	P
Outgroup political cues (without affect and controls in the model)					
Outgroup vs. ingroup	0.32	0.23, 0.40	0.044	52.01	<0.001
Ingroup/outgroup vs. bipartisan/expert	0.23	0.17, 0.29	0.031	56.13	<0.001
Bipartisan vs. expert	0.05	−0.04, 0.13	0.043	1.30	0.255
Outgroup political cues (including affect and controls in the model)					
Outgroup vs. ingroup	−0.17	−0.27, −0.07	0.049	12.01	<0.001
Ingroup/outgroup vs. bipartisan/expert	0.03	−0.04, 0.08	0.031	0.31	0.576
Bipartisan vs. expert	−0.33	−0.42, −0.24	0.046	50.61	<0.001
Affective measure					
Affect toward proposer	0.22	0.19, 0.24	0.012	306.43	<0.001
Respondent partisan identification					
Liberal vs. conservative	−0.05	−0.11, 0.01	0.030	2.55	0.110
Policy emphasis					
Public health vs. economic	−0.74	−0.80, −0.69	0.029	680.84	<0.001

foregrounding of political elites triggered affective polarization and polarized public opinion to COVID-19 policies, not only in the United States but across a diverse range of countries. These polarizing effects occurred for COVID-19 containment policies, as well as, in the United States, policies about international COVID-19 vaccine distribution. Policies backed by bipartisan coalitions and nonpartisan experts precluded these polarizing effects by avoiding association only with outgroups.

The similarity of findings across these politically and culturally diverse countries, as well as across policy subjects in the United States, suggests that the influence of partisan elite cues and affective polarization are neither confined to the United States nor a function of a specific policy domain. Social-behavioral scientists should therefore look beyond US-centric processes such as its two-party system, ideological sorting, and uniquely polarized media (27–29) that do not readily explain polarizing effects in other countries. Although there may be some exceptional elements of political sectarianism (9) in the United States, the present results imply more widespread social, cognitive, and affective explanations for the polarizing influence of political elites.

The results provide suggestive evidence that affective polarization contributes to the polarizing effects of partisan elites. Importantly, measuring affective polarization before policy stances ensures that descriptions of policies could not have influenced affect (8). Although it is possible that measuring affective polarization exacerbated the effects of political elite cues by priming intergroup animosity, studies in the United States have demonstrated comparably large effects of political cues without measuring affective polarization (19–21). Future work could expand on these findings by experimentally manipulating affect orthogonal to political elite cues to better establish affect's causal role.

Future work might also expand the number and range of countries in a design with similar policy contexts and proposals. Although this study included a range of countries, four of the seven were individualistic, Western countries. Broader representation of non-Western, less-individualistic, less-wealthy countries would afford stronger tests of the generality of polarizing phenomena.

In demonstrating that expert sponsored policies are depolarized and widely supported, the present results stress the importance of maintaining trust in nonpartisan experts. The politicization of experts undermines their broad credibility (47, 48), which has begun to erode among conservatives worldwide (35, 36). Preserving scientists' and public health experts' nonpartisan status enables them to uphold their effectiveness in providing crucial guidance during crises like the COVID-19 pandemic.

In an interconnected world, shared threats of pandemics and other international crises will be increasingly common (49, 50). Partisan elites create barriers to combatting these threats by polarizing public support for effective policies. These barriers can be overcome by foregrounding bipartisan coalitions and nonpartisan experts in public health communication.

Materials and Methods

The Institutional Review Board at the University of Colorado categorized the study as exempt (Protocol 20-0197). Respondents provided informed consent before completing the study. All materials, data, and analysis scripts are available on OSF, housed within the Political Cues folder: https://osf.io/ewr7g/.

Respondents. In the main experiment, we surveyed diverse national samples ($n = 12,955$) between 3 and 20 August 2020, from Brazil ($n = 1,500$), Israel ($n = 1,958$), Italy ($n = 1,586$), South Korea ($n = 1,484$), Sweden ($n = 1,589$), the United Kingdom ($n = 1,520$), and the United States ($n = 3,318$). Samples were drawn from online panels based in each of the seven countries. Sampling quotas for age and gender were used to select respondents and respondents were financially compensated for their participation, except in the Swedish sample. Surveys were completed online and administered in each country's official or national language. Surveys were adapted from English by the authors who are fluent in both English and the target language and who have expertise in the cultural and political contexts of each country (see OSF File 1 for more information on sampling method by country and sample descriptive statistics). In the follow-up experiment, we surveyed 2,463 respondents in the United States who had participated in the main experiment (of 3,346 eligible US respondents, a 73.6% recontact rate) from 30 October to 15 November 2020.[‡]

Policy Emphasis Manipulation. In the main experiment, respondents were randomly assigned to evaluate one of two policies to manage the COVID-19 pandemic. Both policies specified social distancing and lockdowns. The public health policy emphasized public health goals, which included more severe restrictions and an 18-mo lockdown that focused "primarily on keeping COVID-19 case numbers down." The economic policy emphasized "recovery of the economy as much as possible while preventing a resurgence in COVID-19 cases," with fewer restrictions and a 6-mo lockdown.

In the follow-up experiment, respondents were randomly assigned to evaluate one of two policies regarding international vaccine distribution. The American prioritization policy stated that because the United States had led vaccine development it "should be able to distribute vaccines to its people before sending vaccines to other countries." The internationally proportional policy stated that "other countries should not be punished for not having the

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[‡]By October 2020, both the Pfizer-BioNTec and Moderna vaccines had entered phase III efficacy trials, but neither vaccine had been issued Emergency Use Authorization by the FDA yet.

means to fund vaccine trials" and that "vaccines should be distributed proportionally to country population size until 20% of each population is protected."

Political Cues Manipulation. For both experiments, we crossed the policy emphasis manipulation with the political identity of the policy's proposal group. Respondents read a policy proposed by one of four partisan proposal groups: liberal elites, conservative elites, a bipartisan coalition of liberal and conservative elites, or relevant experts including the World Health Organization. Liberal and conservative elites were defined within each country, for example, Democrats versus Republicans in the United States, politicians from the progressive opposition versus the conservative government in Brazil, and Social Democratic versus Moderate politicians in Sweden. Specific politicians were named among party elites in all countries except in Israel and South Korea, where the framing effects were comparable to the overall effect (see *SI Appendix*, Table S1 for list of political groups by country; see OSF File 2 for the full text of US policy stimuli).

Measures. Respondents indicated how much they supported the overall policy and four specific policy components: social distancing, workplace regulations, contact tracing, and travel regulations (-3 = strongly oppose, $+3$ = strongly support), which we averaged into an index of policy support ($\alpha = 0.89$).

Respondents indicated their partisan identification with the relevant political groups in their country using two branched questions as in previous papers

(51). We used these responses to categorize respondents, including leaners, as Liberal, Conservative, or Centrist.

Affective polarization measures were collected before the presentation of the COVID-19 policy and the political cues manipulation. To measure affective polarization, respondents reported their affect toward three groups: liberal elites, conservative elites, and experts. They reported trust (-3 = strongly distrust, $+3$ = strongly trust), liking (-3 = strongly dislike, $+3$ = strongly like), and temperature (-3 = very cold, $+3$ = very warm). We averaged these responses into a composite measure for each target ($\alpha = 0.90$, 0.92, and 0.87, respectively).

Data Analysis. Analyses were conducted using R version 4.0.2. We analyzed data with multiple linear regressions using contrast-coded predictors, their interactions, and fixed effect deviation coding to compare each country to the overall mean (see *SI Appendix*, Table S3 for contrast codes). Degrees of freedom vary across analyses due to missing data.

Data Availability. Survey data have been deposited in OSF (https://osf.io/ewr7g/?view_only).

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Flores et al.
Politicians polarize and experts depolarize public support for COVID-19 management policies across countries

PNAS | 7 of 7
https://doi.org/10.1073/pnas.2117543119