WHERE MOTIVATED REASONING WITHERS AND LOOMS LARGE: FEAR AND PARTISAN REACTIONS TO THE COVID-19 PANDEMIC

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Abstract

Contemporary American politics has been largely characterized by hyper-partisanship and polarization, with partisan motivated reasoning a thematic concern. Theories of emotions in politics suggest that anxiety might interrupt partisan heuristics and encourage citizens to reason more evenhandedly—but in what domains and to what extent? We use original panel data to assess how anxiety about becoming seriously ill from Covid-19 interacted with partisan attachments to shape political judgment during the Covid-19 pandemic. The structure of our data allows us to assess large-scale implications of politically relevant emotions in ways that so far have not been possible. We find large effects on policy attitudes: Republicans who were afraid of getting sick rejected signals from co-partisan leaders by supporting mask mandates and the like. Effects on vote choice for Republicans were muted in comparison, but fear's large effect on independents may have been pivotal.

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American voters tend to assign disproportionate weight to conditions that prevail *close* to an election (Achen and Bartels 2016). In a stark departure from this reliable pattern, exit polls indicate that Donald Trump won a higher percentage of Republican voters in 2020 than even Ronald Reagan did in his 1984 landslide victory, despite nearly 200,000 dead from Covid-19 in the eight months preceding the election.[1] Perhaps Republicans provided Trump such lockstep support because so many agreed with him on the campaign's most salient issue: how best to deal with Covid-19. Or, as a large literature on partisan motivated reasoning (e.g. Lodge and Taber 2000) might suggest, perhaps the pull of partisanship was sufficiently strong that Republicans fell in behind Trump's policy course on other issues and ignored the loss of life.

In fact, many Republicans—sometimes most—departed from the president's posture toward Covid-19. While Trump argued the threat posed by Covid-19 was exaggerated, polls from the Democracy Fund Voter Study Group revealed the share of Republicans who expressed concern about Covid-19 never dropped below 75 percent in the second half of 2020. Republican support for empowering state and local governments to cancel large gatherings, close businesses and schools, and restrict travel consistently topped forty percent and was often much higher (Tausanovitch and Vavreck 2021). On Covid-based policy preferences, then, the effect of Republican partisanship withered. Lockstep Republican election support occurred *despite* widespread policy disagreement.

[1] We rely on presidential exit polls archived at the Roper Center ("US National Election Day Exit Polls" 2022). They reveal that Trump's 94 percent is the highest percentage ever recorded. The 2012, 2004, and 1984 elections had the second-highest percentage, with 93 percent.

Why did such a large chunk of Trump's co-partisans disagree with him on one of the most salient issues in generations, yet a historically high percentage still vote to reelect him? We examine a factor that has been posited to constrain the effects of partisan motivated reasoning: anxiety. Scholars have found that emotional reactions to political stimuli are central to understanding why partisans depart from their normal tendency to mimic leader cues (Marcus and MacKuen 1993). In particular, anxiety—an emotion in abundant supply during the first year of the pandemic—can elevate citizens' accuracy goals relative to directional goals (Albertson and Gadarian 2015), inducing partisans to carefully consider and perhaps even reject arguments being promulgated by co-partisan elites. Because the pandemic was a genuine—possibly mortal—threat for millions of Americans and because it remained so for months, the fears it spawned had the potential to interrupt partisan pathways in impressive fashion.

Using panel survey data collected between April 2020 and Election Day, we find it did, but its impact was asymmetric on policy preferences relative to vote choice, which helps explain why massive policy defection coexisted with paltry vote defection. After validating our measure of anxiety by tracing it to pandemic-related events and a variety of individual differences, we find strong evidence that anxiety helps account for why so many Republicans departed from the party line on Covid-19 policies. Those who expressed fear of becoming seriously ill supported mask mandates, stay-at-home orders, and other protective measures at rates similar to Democrats. Anxiety was also associated with increases in self-reported information search about Covid-19 and more accurate knowledge about it, including a fact (whether Covid-19 is more dangerous than the flu) that was subject to politicized dispute. These findings are noteworthy because they establish that the influence of partisanship on political reasoning has limits even in this polarized time.

However, anxiety did much less to interrupt partisan pathways on vote choice. On one hand, this is expected; voting to turn power over to the other party is more consequential than agreeing with it on a policy. In addition, while Trump might have been the "incorrect" choice on Covid-19 for a large chunk of Republicans, he was the "correct" one on many other issues. On the other hand, we did not expect vote choice to stand so far apart from other outcomes. After all, bad times are not ordinarily so partisan. In the last two elections when incumbents ran and lost, defection rates were several times higher than those in 2020. In 1992, 27 percent of Republicans defected from George H.W. Bush, and 33 percent of Democrats defected from Jimmy Carter in 1980. That Donald Trump, presiding over a massive loss of life, lost only six percent of Republican votes appears to be a stark outlier.

We also examine the role political independents played in the 2020 election. Not subject to the pull of party loyalties, independents behaved as both theories of emotions in politics and voting behavior during bad times would predict. Fear profoundly affected their issue preferences and their vote choices, the latter probably accounting for Biden's 13 percentage point edge among this group in the exit polls, the largest such advantage since 1980. We estimate that independents who expressed the highest level of fear of Covid-19 were approximately forty-five percentage points less likely to vote for Trump than those who expressed the lowest level of fear, nearly three times the effect as for Republicans.

Overall, the pattern of influence we uncover reveals outcomes for which motivated reasoning withers under pressure—and others for which it looms large. Anxiety about real-world events can decouple partisans' policy positions from those of their party leaders. Once citizens enter the voting booth, however, their ability to assess accountability and mete out electoral reward or punishment remains deeply affected by partisanship even under pandemic conditions.

Partisanship and its Emotional Limits

Partisanship is a formidable force in political belief systems. Early in life, most Americans come to identify with one of the major parties, an identity that often strengthens with time (Jennings, Stoker, and Bowers 2009). Partisanship, in turn, informs a wide range of political opinions, evaluations, and behaviors (Gerber and Huber 2010; McConnell et al. 2018; Ryan and Aziz 2021). Most important for our purposes, it provides a roadmap for understanding where partisans ought to stand on issues. Especially when issues are complicated or new—as was the case with Covid-19—people can overcome informational or motivational shortfalls by looking to their party leaders for cues about which side they should take. Early scholars of mass politics identified this regularity (e.g. Converse 1964) and more recent ones have uncovered a marked increase in the strength of the party leader-follower dynamic of late (e.g. Lenz 2012).

Part of the reason for the strengthening concerns how the parties present themselves. Because parties at the elite level have grown more internally homogeneous in their position-taking, cue-takers in the electorate receive an increasingly clear signal (Hetherington 2001). At least as important, however, are information processing and psychological considerations. With Americans grievously divided with respect to the media they consume (Prior 2007), the social groups with which they affiliate (Mason 2018), and their feelings toward parties (Iyengar et al. 2019), the psychological costs of taking positions opposite one's party have grown. To avoid such costs, partisans often engage in motivated reasoning, the tendency to uncritically accept congenial political messages while dismissing uncongenial ones (e.g. Lodge and Taber 2000; Stroud 2011; Zaller 1992).

While it is normal for partisanship to influence political opinions and preferences, researchers have elucidated conditions that induce citizens to depart from habit and place more

weight on information and expertise. An important factor appears to be the emotions that circumstances cause citizens to feel. Emotions are widely regarded as serving a directive function, orienting people toward contextually appropriate adaptive behavior (Tooby and Cosmides 2008). As Albertson and Gadarian write, "not only do emotions make us feel something, they also encourage us to *do something*" (2015, 5). In the nonpolitical world, smelling rotten meat might, for example, cause a person to experience disgust, which in turn would induce them to avoid eating or touching the meat (Rozin, Haidt, and McCauley 2008). To flesh out the political significance of emotions, Marcus, Neuman, and MacKuen (2000) developed the theory of Affective Intelligence. The extent to which citizens experience combinations of enthusiasm and fear (posited to be associated with mental "disposition" and "surveillance" systems, respectively) determine the extent to which they rely on habit or engage in effortful thinking about current events.

Although subsequent work contested some specifics of the Affective Intelligence model, including whether it is better to conceptualize emotions discretely rather than as the output of two overarching systems (Lerner and Keltner 2001), the precise consequences of anger (Ryan 2012), and the exact conditions that induce specific emotions (Steenbergen and Ellis 2006), these studies affirmed that emotions aroused by political messaging and events can shape the processes by which citizens arrive at their political judgments.[2]

[2] See Brader and Marcus (2013) for a review.

The clearest point of convergence concerns the role of anxiety.[3] Anxiety is conceptualized as an unpleasant, aversive emotional state—the emotional response to threat—that causes people to take protective measures (Eysenck [1992] 2014). Numerous experiments corroborate that anxiety can heighten attention and motivate people to seek information relevant to coping with a threat. For instance, Valentino et al. (2009) use a writing task to induce anxiety and document large increases in subjects' propensity to visit a political candidate website to gather more information. MacKuen et al. (2010) show that presenting participants with counter-attitudinal information induces anxiety and causes them to read more deeply (see also Redlawsk, Civettini, and Lau 2007). Brader, Valentino, and Suhay (2008) find that exposing participants to news stories about economic costs of Latino immigration induces anxiety and, in turn, heightens desire for information about immigration.[4]

A finding that has particular relevance for our present undertaking is that the shift in processing style associated with anxiety has the potential to interrupt partisan habits (Marcus and

[3] Previous authors on this topic frequently use the words "anxiety," "fear," "worry," and "concern" interchangeably, (e.g. Marcus et al. 2006; Marcus, Neuman, and MacKuen 2017; Watson 1988). "Anxiety" is most common when referring to underlying psychological processes, but survey items measuring anxiety commonly use other words, since they are more common and since "anxiety" can (unintentionally) connote a kind of nervous, eager excitement (e.g. "I was anxious to get to the dance."). We use "fear" and anxiety interchangeably here.

[4] We note two departures from the broader trend. In an online field experiment, Ryan (2012) finds null effects of an anxiety treatment on information-seeking. Brader (2006) finds induced enthusiasm—but not anxiety—to stimulate interest in a political campaign.

MacKuen 1993). In a landmark essay on motivated reasoning, Kunda (1990) distinguishes between accuracy goals (using the best available information to reason one's way toward a correct answer) and directional goals (using information to corroborate a preferred, likely partisan, conclusion). Scholars have found that anxiety promotes accuracy goals, as it reflects the need to respond to a threat with high-quality information. In this vein, adding anxiety-inducing scary music to a campaign advertisement decreases the impact of long-held predispositions on participants' vote choices and increases their reliance on current issue evaluations (Brader 2006). Anxiety can also buttress trust in policy actors responsible for addressing a problem. In a prescient pair of studies, Albertson and Gadarian (2015) induce anxiety about a breakout of H1N1 (swine flu) and a new smallpox variant. They find substantially increased trust in relevant experts, like doctors and the Centers for Disease Control and Prevention. These patterns distinguish anxiety from anger, a distinct emotion. Like anxiety, anger is negative in valence, but it tends to intensify partisan attachments rather than attenuate them (Webster 2020).

Although substantial evidence linking anxiety to heightened attention and decreased partisan motivated reasoning exists, work produced over the last two decades has drawn predominantly from randomized experiments.[5] This methodological pattern results in some ambiguity about how the political effects of anxiety will scale to a real-world context (see Barabas and Jerit 2010 for a related discussion). In particular, ethical considerations restrict experiments to inducing a *small* degree of anxiety, generally delivered in the course of a single

[5] For some exceptions, see Marcus et al. (2019).

experimental sitting (often just a few minutes).[6] But anxiety's political effects might mount if the dose is larger (Silverman, Kaltenthaler, and Dagher forthcoming), or endures over a longer period of time (Redlawsk, Civettini, and Emmerson 2010). Additionally, although many experiments examine anxiety in conjunction with partisanship, it is difficult to mimic in a laboratory context the extreme volume and intensity of partisan messaging that occurs during a presidential election. Simply put, the emotions in politics literature might benefit from work that helps characterize how emotions shape responses to real political events.

Few naturally occurring events afford researchers the opportunity to study the effects of anxiety using observational data. Hurricanes and financial depressions might cause widespread anxiety, but in a way correlated with confounding factors such as socioeconomic status. The Covid-19 pandemic is different. It presented an acute threat to nearly *all* Americans—from city dwellers to indigenous people living in the most remote Alaskan hamlets (Baker and Kovaleski 2020). It also swelled and waned idiosyncratically for more than a year. These properties make it an especially revealing case, as we elaborate below.

Hypotheses

To better characterize the political significance of anxiety, we examine its effect in three distinct domains: policy support, information acquisition, and vote choice. Especially in a highly partisan world, the standard operating procedure people employ when processing new information is to accept that which is consistent with their existing predispositions and to ignore

[6] Thus, at least some researchers explicitly limit their theoretical predictions to the "low levels of uneasiness associated with typical public policy debates" (MacKuen et al. 2010, fn. 3).

or counter-argue that which is contrary to them. Because party elites took clear and opposing positions on mitigation (Summers 2020), Democratic and Republican identifiers will naturally possess partisan directional goals on mitigation policies, with Democrats encouraged by their leaders toward support and Republicans toward opposition.

Can an immediate concern about Covid-19's danger for personal health alter those baseline tendencies? We suggest that it can, due to fear's influence on information processing. Those who are fearful will be more willing to reconsider prior evaluations, and they will seek information about what might be done to diminish the threat. They should turn to information sources beyond those they normally consult. They should prioritize acquiring accurate information, and their knowledge about the pandemic should increase as a result. In particular, because mitigation measures such as mask mandates and business closures had widespread support from public health experts (Berman 2020), fearful individuals should be more supportive of active public health policies.

The net impact of fear should be stronger for Republicans than for Democrats. Some Democrats will find the new information brought on by fear-induced accuracy goals pushing them toward stronger support for mitigation, but most will find that information merely reinforces what they already believe. On the other hand, most Republicans will find the new information leads them in a direction different from their partisan leaders' messages. Compared to Democrats, then, fearful Republicans should move further toward support for mitigation policies simply because their attitudes have more room to change.

Finally, we examine fear as a predictor of vote choice in the 2020 presidential election. For both Republicans and Democrats, the effects of fear should be much smaller than for policy preferences. Presidential vote choice is the quintessential expression of partisan identity and,

additionally, voters may still support candidates they disagree with in one domain because they agree with them in another that is more important to them. Because anxiety about Covid-19 will reinforce Democrats' already strong likelihood of voting for Biden, fear's effect is likely to encounter ceiling effects. For Republicans, however, larger effects are possible. The degree to which fear had any impact on Republican vote choices is a critical test of political accountability. We noted above that, when the nature of the times was bad in past elections, partisans abandoned their incumbent in droves. In 2020, the pandemic was incredibly disruptive, highly politicized, and the federal government's crisis management was woefully inadequate (e.g. Wright 2021). If fear induces few defections in even these circumstances, we must conclude that anxiety's capacity to countervail electoral polarization is limited in one important sense.

A remaining question is what the political effects of anxiety should be among political independents. Pure independents, by definition, will not have partisan directional goals for or against mitigation. As such, we expect fear's effect on their policy preferences to be smaller than for Republicans but larger than for Democrats. On vote choice, however, two distinct considerations are relevant. Republicans' directional goals in favor of Donald Trump might provide more room (relative to independents) for fear to move them. But on the other hand, Republicans' vote preferences might be especially firmly held, which will make it much harder for fear to generate defections. Because we expect vote choices to be firmly anchored, we expect independents' negative emotional reactions to the pandemic to affect their vote choices much more than the same will for Republicans.

Data and Methods

To examine how pandemic-induced anxiety shaped opinions and modified partisan habits, we turn our attention to survey data collected during the Covid-19 pandemic. In April of 2020, we contracted with Qualtrics to collect a sample of American adults, targeted to meet Census benchmarks for race, gender, education level, and income. We conducted follow-up interviews in June, September, and October. For each follow-up, Qualtrics began by inviting individuals who had completed one or more prior waves. Typically, approximately half of these individuals responded. Next, Qualtrics attempted to minimize attrition bias by replenishing the sample, again with attention to our Census targets (see Deng et al. 2013; Hirano et al. 2001 on using refreshment samples to handle attrition). We use the separate cross-sections to provide descriptive evidence supporting our hypotheses.

Although each cross-section aligns with our Census targets, differential attrition may cause our panel sample to diverge from those targets.[7] Our goal in utilizing a panel design, however, is not necessarily to estimate population average treatment effects. Rather, we are primarily concerned with estimating credible in-sample treatment effects among a group of panelists that is diverse across a wide range of variables, including partisanship (see Franco et al. 2017 on population versus in-sample effect estimates). Table 1 clarifies how many participants in each wave had participated in prior waves. Together, the four waves provided an unbalanced panel of 2,318 verified respondents, including 469 who participated in all four surveys.

[7] See Supplementary Information page S5 for distributions of all demographic and dependent variables among both cross-sectional and panel samples.

Table 1: Field Dates and Observations in Panel Survey

	Completed wave 1 (April)	Completed wave 2 (June)	Completed wave 3 (September)	Completed wave 4 (October)	Completed all waves after initial enrollment
Started in wave 1	2,194	1,330	874	706	469
Started in wave 2		512	230	162	126
Started in wave 3			1,294	557	557
Started in wave 4				1,016	1,016
Total	2,194	1,842	2,398	2,441	2,168

Using all four survey waves, we examine support for five pandemic-relevant policies: mask mandates, stay-at-home orders, lockdowns requiring businesses to close, monitoring of public spaces by police, and mandatory Covid-19 testing even for asymptomatic individuals.[8] Next, we assess the influence of anxiety on information search and knowledge about Covid-19 based on analysis of survey waves 1 and 2. Finally, we use our wave 4 sample to examine respondents' vote intentions in the 2020 presidential election. These data were collected from October 22 through November 3, 2020, with collection ending the day of the election.

Validating a Measure of Anxiety

Critics of survey-based emotions in politics studies argue that a strong correlation between expressed emotions and party identification undermines the endeavor (Ladd and Lenz 2008).[9] Before proceeding, we must establish that our measure of fear depends on factors other than politics. To measure fear of getting sick from Covid-19, we ask respondents, "How

[8] See Supplementary Information page S2 for full item wordings.

[9] Anxiety is correlated with our measure of party identification. The association, however, is not especially strong, ranging from $r = -0.147$ in Wave 1 to $r = -0.29$ in Wave 4.

concerned are you that you will become seriously ill from the coronavirus outbreak?" with four ordered response options ranging from "not at all concerned" to "very concerned." We estimate variation in anxiety as a function of partisanship as well as several other potential antecedents: social characteristics reflecting groups hit particularly hard by Covid-19, including age and race; personality traits like neuroticism and perceived vulnerability to disease (Duncan, Schaller, and Park 2009); personal experiences such as knowing someone who died from Covid-19; and contextual factors such as cases and deaths per capita in a respondent's home county (The New York Times 2020).

The results appear in Table 2. The four columns on the left include estimates for all respondents. The four columns on the right reflect an analysis of Republicans only. Starting with the full sample models, we find that although party identification is consistently associated with fear of Covid-19, so too are knowing someone who has died from it, being older, and being either Hispanic or Asian American relative to being white. When personality items are available in specific survey waves, they are strongly associated with fear. People who score higher on neuroticism and agreeableness traits express more fear, while those who score higher in conscientiousness express less. Those who perceive they are more vulnerable to getting sick in general also express much more fear about Covid-19 specifically. In waves 2 and 3, the number of per capita deaths in the respondent's home county is positively associated with fear of Covid-19. In short, partisanship matters, but it is far from the only thing that matters.

Table 2: Determinants of Fear among Republicans and All Respondents

	Full Sample				Republicans Only			
	Wave 1	**Wave 2**	**Wave 3**	**Wave 4**	**Wave 1**	**Wave 2**	**Wave 3**	**Wave 4**
Extraversion	0.039 (0.044)				0.009 (0.068)			
Agreeableness	0.196* (0.052)				0.255* (0.077)			
Conscientiousness	-0.187* (0.051)				-0.216* (0.080)			
Neuroticism	0.269* (0.052)				0.497* (0.087)			
Openness	0.036 (0.047)				0.138 (0.075)			
Perceived vulnerability		0.625* (0.053)				0.716* (0.092)		
Independent	-0.581* (0.147)	-0.629* (0.153)	-0.816* (0.144)	-0.475* (0.146)				
Republican	-0.392* (0.097)	-0.689* (0.113)	-0.853* (0.100)	-1.033* (0.099)				
Party strength					-0.127 (0.529)	0.586 (0.666)	-1.251* (0.551)	-0.099 (0.527)
Know victim	0.635* (0.135)	0.566* (0.177)	0.494* (0.139)	0.470* (0.144)	0.717* (0.212)	0.614* (0.302)	0.869* (0.243)	0.348 (0.259)
Cases per capita	0.037 (0.068)	0.031 (0.122)	-0.034 (0.071)	0.016 (0.044)	0.227 (0.118)	-0.287 (0.237)	-0.077 (0.099)	0.013 (0.079)
Deaths per capita	0.021 (0.041)	0.476* (0.154)	0.382* (0.148)	0.052 (0.161)	-0.048 (0.067)	0.484* (0.244)	0.492* (0.204)	-0.054 (0.227)
Asian	0.688* (0.188)	0.602* (0.176)	0.770* (0.195)	0.291 (0.193)	0.344 (0.352)	1.070* (0.340)	0.985* (0.349)	1.085* (0.384)
Black	0.189 (0.184)	0.245 (0.144)	0.001 (0.132)	0.230 (0.132)	0.447 (0.620)	0.914* (0.453)	0.477 (0.422)	1.127* (0.406)
Latinx/Hispanic	0.401* (0.191)	1.008* (0.237)	0.728* (0.128)	0.822* (0.126)	0.929* (0.394)	1.619* (0.530)	1.049* (0.237)	1.269* (0.256)
Female	0.092 (0.103)	-0.004 (0.104)	0.162 (0.087)	0.254* (0.090)	0.070 (0.155)	-0.128 (0.169)	-0.082 (0.144)	0.298* (0.151)
Age: 35-54	0.484* (0.129)	0.295* (0.144)	0.470* (0.115)	0.301* (0.114)	0.370 (0.207)	-0.457 (0.270)	0.400* (0.196)	0.487* (0.190)
Age: 55-74	0.345* (0.140)	0.325* (0.145)	0.608* (0.119)	0.484* (0.117)	0.280 (0.224)	-0.231 (0.270)	0.754* (0.193)	0.609* (0.193)
Age: 75+	0.155 (0.212)	0.207 (0.224)	0.192 (0.189)	0.208 (0.186)	0.151 (0.309)	0.022 (0.362)	0.497 (0.298)	0.824* (0.299)

HS or less	0.087	0.033	0.127	-0.000	-0.121	0.210	-0.026	-0.073
	(0.119)	(0.122)	(0.102)	(0.102)	(0.181)	(0.206)	(0.166)	(0.169)
Some college	0.054	-0.043	0.016	-0.084	-0.166	-0.022	-0.246	-0.269
	(0.132)	(0.148)	(0.118)	(0.116)	(0.220)	(0.267)	(0.201)	(0.202)
Observations	1763	1364	1863	1966	773	521	688	714

Note: *p < 0.05, standard errors in parentheses. Democrat is baseline category for party. 18-34 is baseline category for age. College degree is baseline category for education. All non-categorical variables, including all dependent variables and the key explanatory variable, fear, are unit normalized. All models fit as ordered logits.

It is especially important to assess whether expressions of fear are based in nonpartisan factors among Republicans, as our study is animated by whether anxiety about Covid-19 attenuates the impact of Republicans' partisanship in particular. To do this, we estimate these models using Republican respondents only, replacing the categorical party identification variables with strength of Republican identity. The results on the right side of Table 2 make clear that fear of serious illness is based in a wide range of factors for Republicans. Of even greater consequence, the effect of party ID strength varies widely across waves and is only statistically significant in wave 3, when fear was at its lowest point in our panel. In short, we find Republicans' worries about getting sick are rooted in their personalities, their social characteristics, their personal experiences, and sometimes their local conditions, but likely *not* in the strength of their party ties.

Expanding Divides in the Mass Public

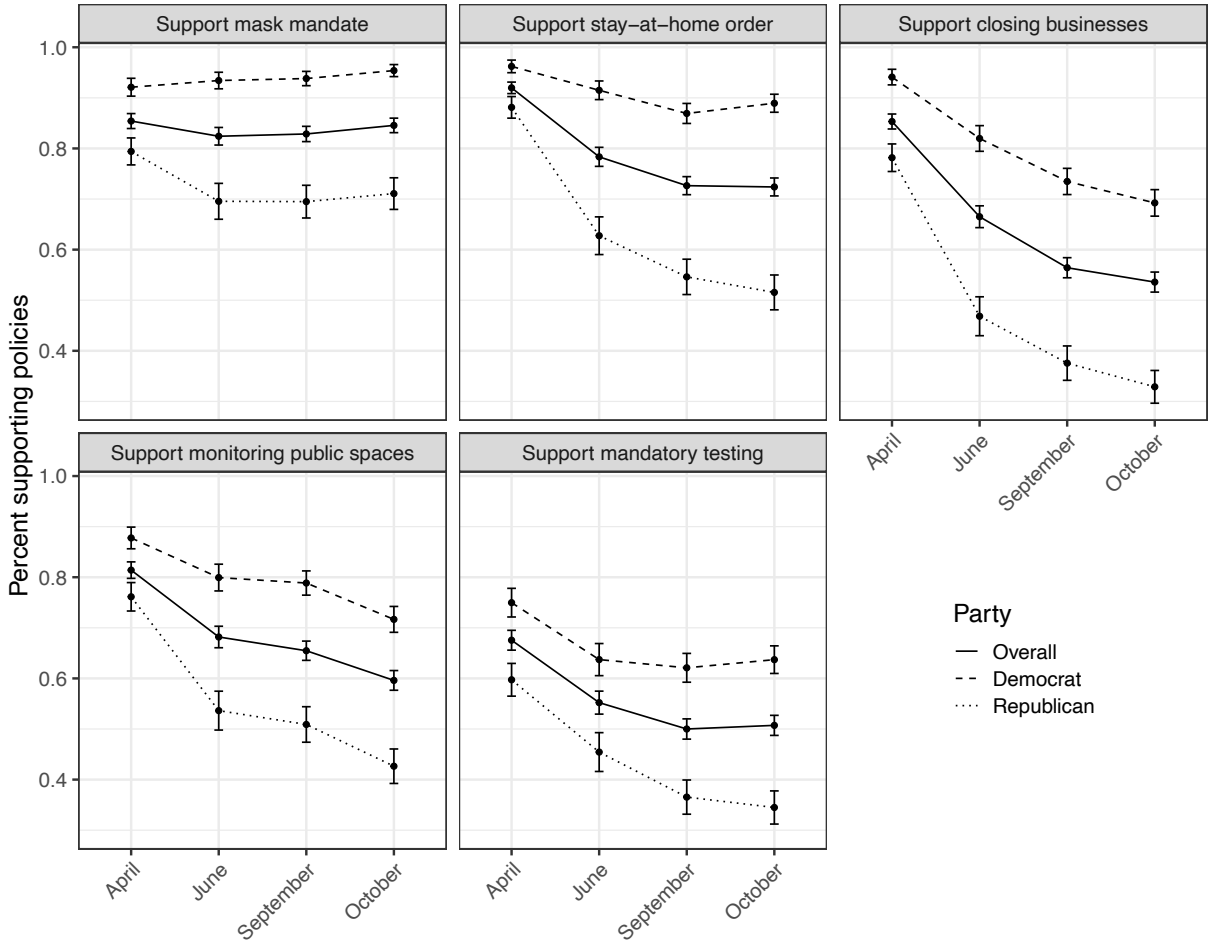
Having validated our measure of anxiety, we begin our analysis of the politicization of Covid-19 and the degree to which anxiety moderated the impact of party. Elite messaging about Covid-19 became increasingly divided between April and October, with President Trump and

many Republican officeholders minimizing the threat while Democratic elites expressed fear about the virus and support for mitigation (Boussalis, Coan, and Holman 2021; Brownstein 2020; Flynn and Iati 2020). Theories of elite cues and public opinion (e.g. Zaller 1992) suggest these types of developments should polarize voters, which Kam and Sides (2020) provide evidence of on Covid-19 issues. They find a wider partisan divide among individuals who pay more attention to politics—the individuals best positioned to reflect their party leader cues.

The amount of fear people express about becoming seriously ill also reflects these differences in elite messaging to some degree. During the short sliver of time when Trump embraced the need for mitigation in April 2020, 62.6 percent of Republicans expressed being "somewhat" or "very concerned" about becoming seriously ill—only 15 percentage points less than Democrats. By October, the gap had grown to 27 points. The widening gap was driven almost entirely by a 10 point drop in anxiety among Republicans. Nevertheless, a majority of Republicans (53 percent) still expressed being at least somewhat concerned about becoming seriously ill from Covid-19 despite persistent cues from their party leaders that its dangers were overblown.

Figure 1 shows support for specific policies related to the pandemic: mask mandates, stay-at-home orders for non-essential activities, closing non-essential businesses, police enforcement of park and beach closures, and mandatory Covid-19 testing. We track the percent who reported strongly supporting or supporting them and break down the results by partisanship while examining trends over time.

Figure 1: Change in Policy Support over Time



Note: Error bars represent 95% confidence intervals. "Overall" measure includes independents. Estimates calculated using cross-sectional samples targeted to meet Census benchmarks.

As with fear of getting sick, the gap between Democratic and Republican citizens on mitigation preferences widens over time. On mask mandates, Republicans and Democrats were 13 points apart in the April survey but 26 points apart in October, a change driven mostly by decreasing support among Republicans. For the other four policies, both Republican and Democratic support waned over time, with the rate of change much faster among Republicans. Regardless, on the two mitigation policies that received the most attention—mask mandates and

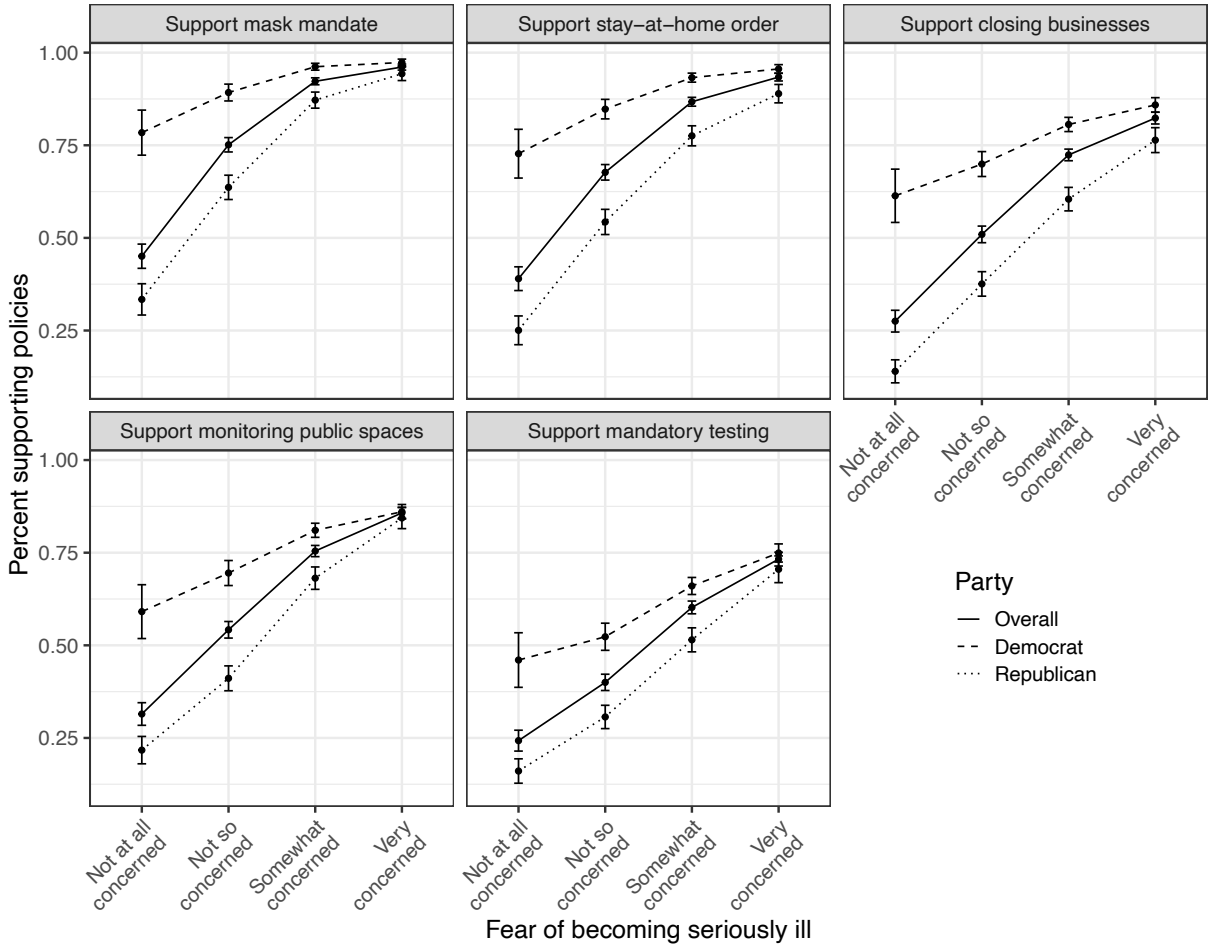
stay at home orders—Republican support remained consistently above 50 percent and approximately 70 percent for mask mandates. In short, the disconnect between elite leadership cues on mitigation and the preferences expressed by mass partisans was very large.

Does Anxiety Temper the Effects of Partisanship?

Much analysis to date has focused on these widening partisan differences (Camobreco and He forthcoming; Clinton et al. 2021; Gadarian, Goodman, and Pepinsky 2021), findings our Figure 1 confirms. However, it bears emphasis that partisan divisions notwithstanding, droves of Republicans supported Covid-19 mitigation strategies despite the elite cues they were receiving. We turn next to anxiety's role in characterizing which Republicans departed from the party line.

Figure 2 depicts how fear of becoming seriously ill correlates with mitigation policy support among Democrats, Republicans, and the full sample. We calculate these estimates by pooling observations across all four waves. Results show a clear, positive relationship between fear and each dependent variable. As expected, this relationship is especially strong among Republicans; across all five variables, lines representing Republican support display steeper slopes than lines representing Democratic support.

Figure 2: Policy Support by Level of Fear



Note: Error bars represent 95% confidence intervals. Estimates calculated using observations pooled across all survey waves.

Take support for government-imposed stay-at-home orders, for example. Among Republicans declaring they were "very concerned" about becoming seriously ill, about 88 percent supported stay-at-home orders, compared to just 25 percent who were "not at all concerned"—a difference of over 60 percentage points. Indeed, Republicans and Democrats who expressed high anxiety were almost statistically indistinguishable in their support for stay-at-home orders, while partisans who expressed no anxiety differed by nearly 50 points. Across all

these policies and behaviors, party differences shrink as anxiety increases. While low-anxiety Republicans adopt party messaging and policy preferences in line with their partisanship, high levels of fear appear to weaken that link, as high-anxiety Republicans embrace more critical processing strategies.

Of course, some of the strong association between fear and mitigation policies could arise from unexamined confounders. We turn to multivariate analysis to more fully examine the relationship between fear, partisanship, and policy preferences during the pandemic. Critically, we employ our panel design to go beyond what the evidence so far has shown and characterize how pandemic judgments change as fear rises and falls.

We begin with the two-way random effects model where the effect of fear is conditional on party and a vector of demographic covariates X:

$$\tilde{Y}_i = \alpha + \boldsymbol{\beta}_1 \, \widetilde{\boldsymbol{F}}_i + \boldsymbol{\beta}_2 \, \boldsymbol{P}_i + \boldsymbol{\beta}_3 \, \widetilde{\boldsymbol{F}}_i \boldsymbol{P}_i + \boldsymbol{\beta}_4 \, \widetilde{\boldsymbol{X}}_i + \eta_i. \qquad (1)$$

Assuming unit and time effects are independent of all covariates, the compound error term η_i takes the form $\eta_i = U_i + \theta_t + \tilde{\varepsilon}_i$ and terms are defined as:

Y_{it} := individual i's position on policy Y at time t

$\boldsymbol{F}_{it}$:= individual i's fear of virus at time t

$\boldsymbol{P}_i$:= individual i's party identification

$\boldsymbol{X}_{it}$:= vector of covariates observed for individual i at time t

U_i := unit effect of individual i

θ_t := time effect of time t

ε_{it} := random error for individual i at time t.

One benefit of this modeling approach is that it draws inferential leverage from over-time, within-subject changes in fear. As others have correctly noted (e.g. Ladd and Lenz 2008),

cross-sectional inferences about political emotions are vulnerable to endogeneity concerns. An unexamined factor such as age or population density in a respondent's locality might explain effects attributed to anxiety. Because random effects models directly estimate baseline differences in fear, the approach we use here goes far in addressing this concern.

The results from the random effects models appear in Table 3. The main effect associated with Republican identity, which represents the effect of Republican identity when respondents are "not at all concerned," is consistently negative and statistically significant, suggesting unfearful GOP identifiers are less likely to support mitigation policies than Democrats (the reference category). The main effect of fear, which reflects fear's impact among Democrats, is positive and significant: Those more fearful are more likely to support mitigation policies.

The key test for our purposes, however, is the interaction between Republican identification and fear since these terms represent anxiety's capacity to moderate motivated reasoning. Here we expect positive effects, which would indicate that the negative effect of Republican identity on support for mitigation policies is offset by the positive effect of being afraid of getting seriously ill. It would also indicate the effect of fear is significantly larger among Republicans than Democrats. Consistent with expectations, the results reveal consistently positive and statistically significant interactions. Fear of becoming seriously ill reduces Republican identity's negative impact on all our dependent variables and increases fear's

positive impact on them.[10] The interactions between fear and independent identification are positive and significant as well. Also as expected, the coefficients on these interactions are smaller than the interactions between fear and Republican identity. Fear's effect is consistently largest among those with partisan directional goals that run counter to accuracy goals. Its effect is consistently smallest when partisan directional goals and accuracy goals are in concert.

Table 3: Two-Way Random Effects Model Results

	Mask Mandate	**Stay-at-Home Order**	**Close Businesses**	**Monitor Public Spaces**	**Mandatory Testing**
Fear	0.158* (0.017)	0.190* (0.017)	0.191* (0.017)	0.167* (0.017)	0.195* (0.018)
Independent	-0.342* (0.039)	-0.323* (0.039)	-0.355* (0.040)	-0.228* (0.041)	-0.212* (0.043)
Republican	-0.535* (0.026)	-0.552* (0.026)	-0.550* (0.027)	-0.405* (0.028)	-0.408* (0.029)
Fear*Independent	0.239* (0.034)	0.160* (0.034)	0.146* (0.034)	0.167* (0.036)	0.091* (0.037)
Fear*Republican	0.330* (0.023)	0.251* (0.023)	0.213* (0.023)	0.245* (0.024)	0.136* (0.025)
Contact	0.085*	0.033	-0.028	-0.006	0.035

[10] A growing literature emphasizes the differential effects of fear and anger, distinct emotional manifestations often jointly triggered by social and political threats and rooted in similar neurological processes (Maratos et al. 2012; Valentino et al. 2008; Vasilopoulos et al. 2019). To assuage any concern that anger might also drive changes in our dependent variables, we re-fit all random effects models presented in Table 3 with a measure of self-reported anger about the pandemic. We find that the effects of anger are mixed and that coefficient estimates associated with the fear variables are virtually unchanged, implying that concerns about anger are unsubstantiated. Results are presented on Supplementary Information page S14.

	Mask Mandate	Stay-at-Home Order	Close Businesses	Monitor Public Spaces	Mandatory Testing
	(0.023)	(0.023)	(0.023)	(0.024)	(0.025)
Cases per capita	0.005	0.008	0.021	-0.020	-0.009
	(0.012)	(0.012)	(0.012)	(0.013)	(0.013)
Deaths per capita	0.001	-0.006	-0.015	0.019	0.004
	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Female	0.086*	0.136*	0.084*	0.123*	-0.017
	(0.025)	(0.025)	(0.025)	(0.026)	(0.027)
Age: 35-54	-0.002	-0.027	0.011	0.066*	-0.066*
	(0.031)	(0.031)	(0.031)	(0.032)	(0.034)
Age: 55-74	0.199*	0.072*	0.110*	0.142*	0.022
	(0.032)	(0.031)	(0.032)	(0.033)	(0.035)
Age: 75+	0.347*	0.155*	0.123*	0.237*	0.150*
	(0.054)	(0.054)	(0.054)	(0.057)	(0.059)
HS or less	-0.111*	-0.070*	-0.072*	-0.045	-0.069*
	(0.028)	(0.027)	(0.028)	(0.029)	(0.030)
Some college	-0.125*	-0.081*	-0.076*	-0.105*	-0.107*
	(0.032)	(0.032)	(0.032)	(0.034)	(0.036)
Intercept	0.090*	0.636*	0.768*	0.434*	0.506*
	(0.043)	(0.043)	(0.043)	(0.046)	(0.047)
Observations	7094	7094	7094	7094	7094

Note: *p < 0.05, standard errors in parentheses. Democrat is baseline category for party. 18-34 is baseline category for age. College degree is baseline category for education. All non-categorical variables, including all dependent variables and the key explanatory variable, fear, are unit normalized. Estimates calculated using panel data.

One limitation of a random effects approach is that, although it accounts for baseline differences in fear, it does so by assuming these are uncorrelated with regressors in the model. A more conservative approach is to employ fixed effects models, which rely exclusively on within-subject variation in the explanatory variables and thus exclude confounders that are constant over time (party ID, race, education, personality traits, and many other things generally meet this condition). However, fixed effects models have lower statistical power, and they preclude the

estimation of interactions that include stable traits such as partisanship. On Supplementary Information page S5, we present a parallel fixed effects approach to estimating the relationships above. It leads us to the same conclusion: Fear of getting sick increased support for mitigation policies, especially among Republicans.

Can anxiety overcome partisan motivated reasoning? Insofar as policy opinions are concerned, the answer is yes. Substantial proportions of Republican identifiers supported mitigation policies, contrary signals from party leaders notwithstanding. Fear about what the virus might do to them appears to be a key reason.

Information-Seeking and Knowledge Accuracy

To recapitulate, we have thus far argued that anxiety induced by real-world events—in this case, fear of getting sick with Covid-19—can reduce the influence of party cues on citizens' policy positions. A complementary test of anxiety's capacity to promote accuracy goals relative to directional goals would be to examine the knowledge that citizens seek and retain during the pandemic. We expect anxiety to be associated with higher propensity to search for accurate information, in addition to the possession of more pandemic-specific knowledge. When it comes to believing facts, specifically, we also expect anxiety to moderate the impact of partisanship. Republicans' directional goals will promote a desire to accept their leaders' cues, leading them to believe, for instance, that Covid-19 is no more dangerous than the seasonal flu. Anxiety ought to be especially important in encouraging Republicans to reject these inaccurate beliefs.

Our dataset affords an opportunity to examine anxiety as a predictor of the information that citizens seek out. Scholars using survey and lab experiments to study emotions in politics commonly find that anxiety encourages individuals to search for information (e.g. Valentino et

al. 2009). Here, we replicate this finding in a real-world context. We asked respondents in waves 1 and 2 how often, in the previous three days, they had checked a news source *that was different from what they normally read.* We designed this question specifically to capture the degree to which people have recently engaged in the type of information search that might reveal new facts and details (consulting a source *different from* normal), rather than relying on their usual sources, which are more likely to reinforce existing (mis)information. Responses ranged from "never" to "very often" on a four-point scale.[11]

The first column in Table 4 presents the results of a random effects model on information-seeking. Fear has a positive, statistically significant effect. Individuals who experienced more anxiety were, as expected, more likely to seek out news sources different from the sources they would typically check. Neither of the party dummy variables nor their interactions with fear is significant. This, too, makes sense. Partisan directional goals do not imply Republicans would necessarily seek less information than Democrats or independents overall, *ceteris paribus*, only that they might be less likely to accept information that runs counter to party cues. Fear does nothing to condition that relationship.

[11] We also asked respondents which national news sources they checked for trustworthy information about Covid-19, allowing us to control for variation in the source and ideological slant of respondents' news sources. We include this information in models of both information search and knowledge accuracy. Full model results appear on Supplementary Information page S16.

Table 4: Anxiety Influences Information-Seeking and Knowledge Accuracy

	Random Effects, Waves 1 and 2	Ordered Logit, Wave 1
	Checked Different News Source	**Knowledge Accuracy**
Fear	0.147* (0.028)	0.389* (0.102)
Independent	0.074 (0.063)	-0.434* (0.191)
Republican	0.076 (0.048)	-0.412* (0.150)
Fear*Independent	-0.099 (0.056)	0.018 (0.180)
Fear*Republican	-0.017 (0.038)	0.264* (0.129)
Asian	-0.056 (0.078)	-0.061 (0.262)
Black	-0.003 (0.064)	-0.054 (0.251)
Latinx/Hispanic	0.041 (0.065)	-0.509* (0.224)
Female	-0.105* (0.040)	0.313* (0.128)
Age: 35-54	-0.060 (0.052)	0.227 (0.161)
Age: 55-74	-0.348* (0.055)	0.459* (0.178)
Age: 75+	-0.333* (0.086)	0.568* (0.274)
HS or less	-0.215* (0.048)	-0.294 (0.157)
Some college	-0.033 (0.054)	-0.505* (0.165)
Intercept	0.159* (0.063)	
News source controls	Yes	Yes
Observations	3381	1933

Note: *p < 0.05, standard errors in parentheses. All non-categorical variables are unit normalized.

Partisanship should, however, inform the degree to which people *accept* facts about Covid-19 as opposed to just searching for information. We also expect that fear could mitigate the tendency of Republicans to reject factual information running counter to their partisan directional goals. Our Census-benchmarked wave 1 sample posed a series of factual statements about Covid-19 designed to reflect readily accessible information supported by scientific consensus: "coronavirus is more deadly than the flu," "coronavirus is more contagious than the flu," "you can be infected with coronavirus and not show symptoms for up to 12-14 days," and "getting the flu shot does not make you less likely to get the coronavirus." Respondents ranked the accuracy of each statement on a four-point scale. We coded "very accurate" and "somewhat accurate" responses as accurate and "not so accurate" and "not at all accurate" responses as inaccurate. We then counted how many statements respondents correctly identified as accurate.

The second column in Table 4 presents the results from an ordered logit model where the dependent variable is the number of statements correctly identified as accurate. The main effects of fear and party are statistically significant and carry the expected signs. As in Table 3, the main effect for fear captures its effect among Democrats; more fear is positively associated with more accurate content knowledge. The main effects for both party dummies are negative, indicating that both independents and Republicans answer fewer questions correctly than Democrats. Most important, the positive interaction between fear and Republican party ID suggests that anxiety again moderates the association between party and knowledge accuracy. Specifically, fear narrows the difference in the number of correct answers provided by Republicans and Democrats, and the impact of fear is significantly larger among Republicans than Democrats. Having one wave of data makes us more cautious in construing this relationship as causal, but

the results suggest that anxiety does encourage individuals to pursue accuracy-motivated reasoning, even on a highly politicized issue.

The results in this section build on the policy results we report above: anxiety encourages individuals to seek out new information and process it with the goal of achieving accuracy, rather than rationalizing partisan talking points. We next turn to the broader electoral ramifications of pandemic-related anxiety.

Anxiety and the Vote

Last, we turn to the degree to which fear influenced presidential voting. We have shown above that anxiety shaped both knowledge about Covid-19 and mitigation-based policy preferences, with effects especially large among Republicans. As such, many (sometimes most) took positions opposite those of their party's standard bearer on the most consuming issue in decades. Moreover, a sizable chunk shouldered the sheer unpleasantness of experiencing anxiety over an extended time. Yet exit polls, not to mention the data we analyze here, suggest that Republican defections were rare, even though the other major-party candidate promised aggressive action on mitigation, which, if elected, would likely have lessened the anxiety they were experiencing. We are not arguing that Republicans who voted for Trump despite high fear of Covid-19 were irrational. Trump gave those who are, for example, opposed to immigration, pro-life on abortion, and in favor of lower taxes plenty to be enthusiastic about during his four years in office. Rather, scholarship on the American electorate would have predicted something different. It reveals an American electorate with few strong policy commitments and one that tends to severely punish incumbents presiding over bad times whether they are responsible for them or not. The 2020 election is a departure.

To examine anxiety's capacity to decouple vote choices from party attachments in a polarized political environment, we turn to our Census-benchmarked wave 4 sample to estimate a binomial logit model of vote choice among those who voted for the two major-party candidates, Donald Trump and Joe Biden.[12] This model takes the form:

$$Y_i = \alpha + \boldsymbol{\beta}_1 \boldsymbol{F}_i + \boldsymbol{\beta}_2 \boldsymbol{P}_i + \boldsymbol{\beta}_3 \boldsymbol{F}_i \boldsymbol{P}_i + \boldsymbol{\beta}_4 \boldsymbol{X}_i + \varepsilon_i, \quad (2)$$

where Y_i takes a value of 1 if individual *i* intended to vote for Donald Trump and a value of 0 if they intended to vote for Joe Biden. The other terms are defined as in (1). As in previous models, we account for a range of social characteristics—race and ethnicity, gender, education, age, income, and whether the respondent lives in the South. To account for policy-based reasons for supporting or opposing the incumbent, we also control for preferences on immigration policy, level of racial resentment, assessment of the economy, and self-reported ideology.[13]

Figure 3 presents the predicted probability of voting for Donald Trump given the respondent's level of fear, broken down by party, with tabular results on Supplementary Information page S19. At the lowest levels of fear, respondents' vote intentions were strongly associated with their party ID. Republicans and Democrats both toed the party line, with overwhelming majorities intending to vote for their party's nominee. As fear increased, the

[12] We also estimate a multinomial logit and ordered logit to assess the possibility that voters may simply abstain rather than vote for a major party candidate. Results, which appear on Supplementary Information page S17, are consistent across all models.

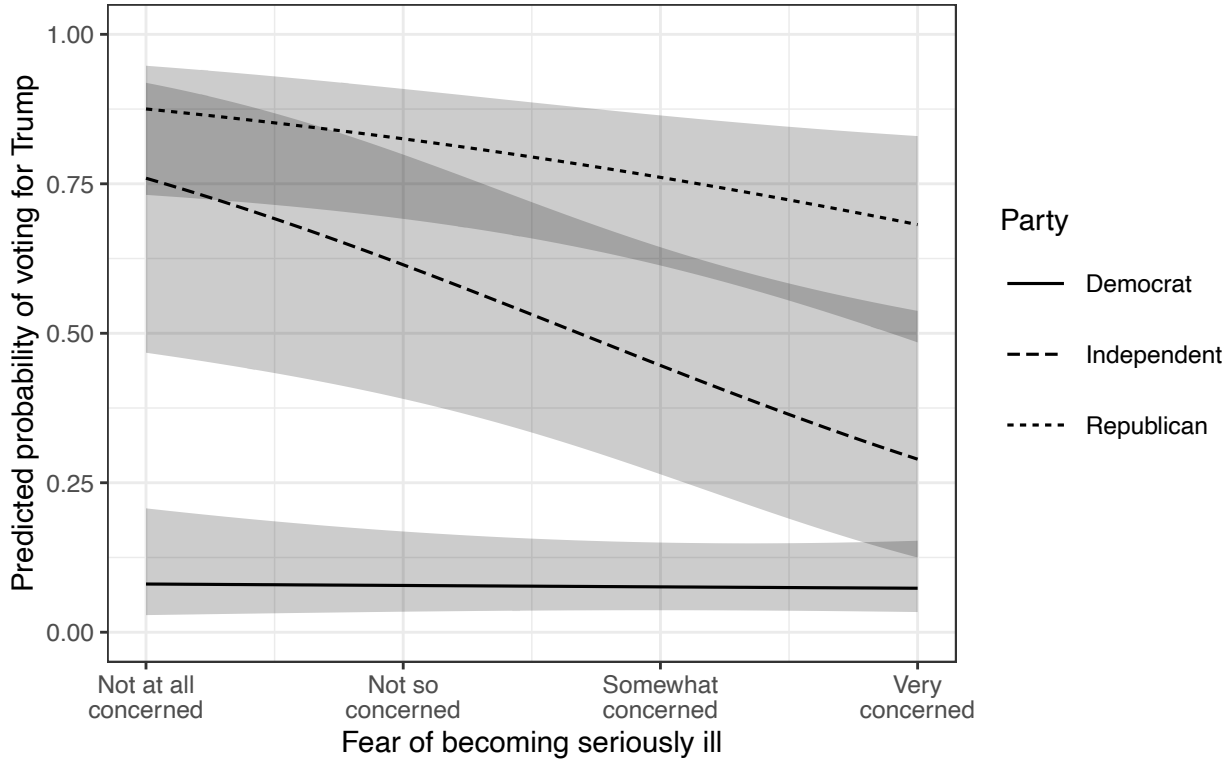
[13] We consider alternative specifications, including models with only demographic controls. Substantive results, presented on Supplementary Information page S19, remain consistent throughout these analyses.

picture changed.[14] The predicted probability that Republicans voted for Trump dips noticeably, but the effect is much less dramatic than for anxiety on their policy preferences that we documented above. Even with fear of getting seriously ill from Covid-19 at its maximum, we calculate a predicted probability of voting for Trump over sixty-five percent, a decrease of less than twenty percentage points compared to the least fearful Republicans. Such a decline is notable, to be sure, but the high predicted probability of Trump support suggests it was still far from likely that even high anxiety changed many Republican minds on vote choice.[15]

[14] With no room to become even more anti-Trump, fearful Democrats, as expected, remained nearly uniform in their opposition.

[15] Our data reveal that Trump enjoyed an 81-19 advantage among the most fearful Republicans. With 18 percent of Republicans "very concerned" about getting seriously ill from Covid-19 in October 2020, it would appear that fear made only a small dent in Republican voter support.

Figure 3: Effect of Fear on Predicted Probability of Voting for Trump



Note: Predicted probabilities estimated from binomial logit model of vote choice between Trump and Biden. Error bars represent 95% confidence intervals. Estimates calculated using wave 4 sample targeted to meet Census benchmarks. Full model results are reported on Supplementary Information page S19.

Independent voters, on the other hand, appeared more responsive to fear. Independents expressing the highest level of fear were about forty-five percentage points less likely to vote for Trump compared to independents expressing the lowest level of fear, and this effect was reflected in final vote tallies in our sample. Thirty percent of wave 4 independents were "very concerned" about becoming seriously ill, and Biden won these fearful voters by a margin of 72-28. It seems fear likely contributed mightily to the much-larger-than-usual advantage Biden had

in the exit polls among independent voters, a group Trump won by four percentage points four years before. In that sense, anxiety about Covid-19 may have had a pivotal impact on the election, despite the strong pull of partisanship.

Discussion

We have elucidated how the emotions Americans experienced about the Covid-19 pandemic did and did not interrupt their political habits. In some contexts, we document large and consistent departures. Although Republican leaders consistently downplayed the pandemic's severity and spoke against public health measures, many Republican citizens discounted these messages. They were afraid of getting sick, they sought out independent information, they learned true facts about the pandemic, and they supported specific policy measures endorsed by Democrats.[16] And yet, fear of severe illness did little to attenuate the effect of partisanship on vote choice. Parties seldom cede control of the presidency after a single term, which means Biden's victory was far from routine. But even with nearly a quarter million Americans dead from Covid-19 on Election Day 2020, Joe Biden improved on Hillary Clinton's proportion of the two-party vote by a mere 1.1 percentage points, a modest net gain for the Democratic candidate.

In addition, our results offer something new for the study of emotions in politics. Especially of late, this literature has relied heavily on lab- and survey-based experiments, leaving open questions about how much genuine calamities can induce emotions that interfere with

[16] These deviations can matter. For instance, we suspect they gave Republican governors of states like Ohio the leeway they needed to break from Donald Trump and enact mask mandates and business closures. In turn, they likely saved lives.

partisan reflexes. Because it palpably influenced life for so long, the pandemic allows us to examine the influence of emotions in circumstances under which they are most likely to have an effect. And they do have an effect—though one that, in the context of a presidential campaign, must compete with other priorities, values, and simple tribal loyalties. As such, even in the extreme scenario of the Covid-19 pandemic, anxiety played a large role, but not a singular one.

Our conclusions also raise several questions that future research should address. We have argued that anxiety brought about by the Covid-19 pandemic encouraged citizens to reassess their political attitudes and render more reasoned judgments than those proceeding from partisan motivated reasoning, but the pandemic was a rare event that posed novel challenges for most Americans. Do smaller-scale, more common occurrences also induce anxiety sufficient for encouraging opinion change? What role does the media play in instigating anxiety in the citizenry? How do political elites stoke and respond to anxiety among their constituents, and what effect, if any, does it have on mass polarization? Answering these questions with data both inside and outside a controlled experimental environment is important for defining scope conditions for the effects of emotions on politics.

Finally, the studies herein add new brush strokes to the portrait of an American public that is deeply divided. Even when they take a dreadful human toll, national tragedies can lead a nation to rediscover its shared identity, shared values, and shared sense of purpose (e.g. Levendusky 2018). So it was with the Great Depression, Pearl Harbor, and the terrorist attacks of September 11. So it might have been with Covid-19. In another version of history, one can imagine facemasks and vaccine cards becoming the modern-day analogs to victory gardens and American flag lapel pins. Instead, the nation remains mired in disputes over matters of ground

truth, not to mention the legitimacy of its political leadership. It is a testament that much has changed, and that an acute threat to democratic accountability remains.

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