Authoritarian Opposition? Authoritarian Disposition and Resistance to Public Health Mitigation Strategies during COVID-19

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Abstract

Government restrictions intended to mitigate the spread of COVID-19—such as "lockdowns", mask mandates, and vaccine passports—produced intense resentment among some groups and led to resistance, defiance, and social unrest in many countries. To better understand the roots of this opposition, we examine the role of dispositional authoritarianism as a psychological motivator of participation in anti-restriction protests and support for the groups that engaged in such actions. Because obedience to authority is commonly identified as a core feature of authoritarianism, existing studies have suggested authoritarians should be more likely to endorse pandemic restrictions and oppose anti-government dissent. However, we propose the alternative hypothesis: individuals with authoritarian dispositions are *more likely* to oppose pandemic restrictions and *more likely* to express support for pandemic dissidents (e.g., anti-vax and anti-lockdown groups). Data from three surveys deployed in the US and UK support our hypotheses, demonstrating a counterintuitive relationship between dispositional authoritarianism and opposition to public health authorities during the pandemic. We further find that dispositional authoritarianism produces an intriguing misalignment between ideology and support for pandemic restrictions among those on the left, leading liberals who score high in authoritarianism to mirror the attitudes and behaviors of their conservative counterparts.

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Largescale demonstrations against restrictive COVID-19 mitigation measures, some of which drew hundreds of thousands of citizens, routinely erupted during the pandemic. The first wave of these protests began in early Spring 2020 as COVID-19 spread rapidly across the globe and countries hastily imposed national "lockdowns" and implemented "stay-at-home" orders, compelling citizens to remain indoors and leave their homes only for emergencies or essentials. For example, in April 2020, armed protesters gathered in multiple US states, including Ohio, Michigan, and New York, to protest the imposition of such restrictions (Bogel-Burroughs and Peters 2020). Such protests—which occasionally turned violent and resulted in clashes with authorities, continued in many countries throughout the latter half of 2020 and throughout 2021, often emerging in response to the reintroduction of restrictions or the imposition of new restrictions such as vaccination requirements or "COVID passes". In August 2021, for instance, as many as 160,000 French citizens peacefully demonstrated against the government's vaccine health pass policy (France24 2021). However, in June 2021 clashes between protesters and police in London following the extension of COVID-19 restrictions resulted in multiple injuries and arrests (BBC 2021).

To better understand and explain the roots of opposition to health restrictions that were ostensibly implemented to reduce health risks and save lives, we explore the individual-level socio-psychological characteristics associated with participation in these events and support for the groups that mobilized against restrictions. In considering how such characteristics shape individual attitudes toward pandemic restrictions and individuals' willingness to resist them, we focus particular attention on authoritarianism. While conceptualized and defined in different ways in the extensive literature on the topic (Engelhardt, Feldman, and Hetherington 2021), authoritarianism is commonly associated with obedience to authority, a deep-seated desire for continuity, stability, and certainty, and a willingness to punish individuals that transgress established norms and rules (Duckitt et al. 2010; Feldman and Stenner 1997;

Greenstein 1965). Given these characteristics, some recent studies have proposed that authoritarians should be more likely to obey governments and public health authorities by complying with government-imposed restrictions and adopting behavioral modifications intended to reduce the spread of COVID-19 (e.g., Bochiccio et al. 2021; Manson 2020; Peng 2021). Moreover, these features of authoritarian disposition imply that authoritarians would generally be less likely to engage in organized dissident action against such policies even if they disapproved of them.

Despite the sound reasoning behind the proposition, we contend that the presumed association between dispositional authoritarianism and support for restrictive pandemic mitigation policies deserves greater scrutiny. In particular, we assert that existing studies largely overlook two important factors relevant to authoritarian responses to the pandemic. First, they neglect to consider that for authoritarians, obedience to authority represents a strategy for obtaining and maintaining order and stability rather than an objective in itself (Duckitt et al., 2010). Second, and perhaps more important, by focusing narrowly on the material threat posed by the pathogen, existing arguments overlook that possibility that some individuals perceived the imposition of restrictive pandemic mitigation policies by political and bureaucratic authorities as a potential threat to security, social stability, and community cohesion. Addressing these factors leads us to question the presumption that authoritarians were more likely to endorse pandemic restrictions and points to the strong likelihood that they would instead oppose restrictive policies due to their perceiving a threat to existing social order and stability. We therefore argue that authoritarian dispositions predict a higher likelihood of pandemic dissent participation as well as more favorable opinions towards pandemic dissidents (e.g., anti-lockdown and anti-vaccine protesters). Finally, because individuals' responses to COVID-19 policies were heavily shaped by political ideology (Gadarian, Goodman, and Pepinsky 2022), we also examine the moderating influence of right-leaning and left-leaning

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ideologies. This permits us to investigate whether right- and left-leaning authoritarians responded differently to the cues issued by political elites regarding the threat posed by COVID-19 and the necessity of the restrictions imposed to mitigate it.

This study proceeds as follows: We first describe the phenomena of anti-lockdown protests during the COVID-19 pandemic and discuss the small body of literature that has sought to explain patterns of pandemic-related unrest. We then identify authoritarian disposition as an individual-level characteristic that potentially explains support for and/or participation in such protests. We describe—but then challenge—existing arguments that authoritarians are more likely to support restrictive pandemic mitigation policies through obedience to authority and preference for punishment against non-conformists and rule breakers. We instead clarify why authoritarians are more likely to oppose such restrictions, more likely to participate in protests against such restrictions, and more likely to express favorable views of COVID-19 dissident groups. In order to illuminate the theoretical underpinnings of this prospective association, we focus on authoritarians' perception of threat and how authoritarians came to view restrictions—more so than the disease itself—as a threat to the social order and to community cohesion, thereby increasing their opposition to state lockdown rules. We then describe our research design and survey instrument, after which we present and discuss our results. We conclude by summarizing and contextualizing our findings as well as highlighting their importance in the development of policy responses for the next pandemic.

COVID-19, Pandemic Mitigation Strategies and Popular Unrest

The COVID-19 pandemic created unprecedented upheaval and instability in global health, economic, social, and political systems. In addition to the public healthcare burdens and the enormous loss of life resulting from the global spread of SARS-CoV-2 virus, the pandemic

mitigation strategies adopted by many national and local authorities—which often included strict controls on human social interactions—imposed substantial economic costs on individuals, exacerbated political cleavages, disrupted social relationships, and degraded community cohesion in many countries (Borkowska and Lawrence 2021; Osofsky, Osofsky, and Mamon 2020). As the pandemic intensified and countries adopted increasingly restrictive disease mitigation strategies, organized public opposition to social distancing rules, mask mandates, and strict lockdowns policies became increasingly common in many countries. Analyses of these events highlight the correlation between the (re)imposition of restrictions and the frequency of protests (see ACLED 2022; Kishi et al. 2021). In the US, protest activity spiked in Spring 2020 as states imposed the first set of lockdown restrictions but then receded during the Summer as restrictions were relaxed; yet protest activity surged again in late-Autumn as rising infection rates prompted authorities to reintroduce restrictions on gatherings and impose mask mandates (see Kishi et al. 2021).

Several recent studies have examined the correlates of public unrest during the COVID-19 pandemic or sought to identify the conditions that gave rise to organized opposition to restrictions. These studies highlight the role of opportunity structures in shaping anti-lockdown mobilization: protests frequency was negatively correlated with COVID-19 infection rates, negatively related to restrictions on domestic transportation and movement, and positively correlated with pre-existing state respect for civil liberties (Neumeyer, Pfaff and Plümper 2023; Plümper, Neumeyer and Pfaff 2021; Wood et al. 2022). Moreover, they suggest that grievances and general attitudes toward authorities influenced protest location and intensity. For example, protests were more common where restrictions were more severe, more costly, or more disruptive to the everyday lives of citizens (Kriesi and Oana 2022; Plümper, Neumeyer and Pfaff 2021; Wood et al. 2022) and were less common where citizens reported higher levels of confidence and trust in authorities (Neumeyer, Pfaff and Plümper 2023).

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Despite studies examining patterns of COVID-19 protest events, few have investigated the psychological characteristics that predict organized opposition to pandemic mitigation strategies or attitudes towards such dissent.[1] This represents an important oversight in the literature, particularly given that theories attempting to explain patterns of protests routinely predicate their arguments on assumptions about the perceptions, motives, and anticipated behaviors of individuals. The handful of existing studies to focus on individual attitudes have, however, uncovered several important ideological and socio-psychological predictors of support for or participation in anti-lockdown and anti-vaccine protests. These include distrust in political authorities, far right ideological orientation, and fears about the erosion of liberty (Hunger, Hutter and Kanol 2023; Peacock and Biernat 2022). Notably, some of the individual-level factors identified in these studies—such as concerns about the erosion of rights and distrust in government—support the theories developed to explain macro-level patterns of protest. They also dovetail with existing evidence (some of it anecdotal) that organized opposition to restrictions was particularly high in areas with high concentrations of right-leaning voters and often attracted right-leaning extremist organizations, such as among militias and in areas that voted overwhelming for Donald Trump in 2016 (Kishi 2016) and in regions of Germany dominated by the far right (Lemann and Zehnter 2022).

Authoritarian Disposition and Pandemic Responses

In addition to the factors summarized above, we contend that authoritarian disposition exerts a significant influence on the way individuals perceived and responded to restrictions imposed during the COVID-19 pandemic. Several studies have argued that authoritarians are likely to

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[1] For related literature on the psychological correlates of support for COVID-19 restrictions, see Gadarian, Goodman, and Pepinsky (2022).

endorse government restrictions and comply with them by adopting behavioral modifications intended to reduce the spread of COVID-19 (Bochiccio et al. 2021; Manson 2020; Peng 2021). These studies reach such conclusions by drawing uncritically on existing arguments that authoritarians are sensitive to the public health threat presented by infectious diseases, follow rules and obey authority figures, and approve of punishing dissenter and norm violators.

The threat to public health argument suggests that authoritarians should support restrictive policies intended to mitigate the public health threats posed by the COVID-19 pandemic. Evidence from pre-COVID-19 public health studies suggests a link between perceptions of infectious disease threats and feelings of fear, disgust, and anger, particularly among ideological conservatives and authoritarians (Ackerman et al. 2018; Inbar et al. 2012). Because the pandemic generated uncertainty about health outcomes, authoritarians might have initially perceived COVID-19 as a significant health threat (Kachanoff et al 2021). Obedience to government and public health authorities to follow mitigation guidelines then became a strategy through which authoritarians sought to diminish this threat.

This argument fits with studies that document a relationship between the incidence of (pre-COVID-19) infectious diseases and the existence of both authoritarian governance structures and prevalence of authoritarian attitudes among the population (e.g., Murray, Schaller and Suedfeld 2013). This has led to suggestions that COVID-19 may therefore contribute to a rise in authoritarianism in many countries (Schifrin and Quran 2020; Zmigrod 2021). Indeed, a handful of recent studies demonstrate that anxiety and worry about COVID-19 positively correlated with expressed authoritarian tendencies, including preference for strong leaders, an adherence to tradition, and favoring the punitive enforcement of social rules (Filsinger and Freitag 2022; Pazhoohi and Kingstone 2021). Notably, however, none of these studies assess whether these authoritarian tendencies translate into support for greater

government restrictions to mitigate COVID-19 and whether authoritarians were more or less likely to obey such commands.

Furthermore, by prioritizing obedience to authority as the key characteristic of authoritarian disposition, previous studies have often implicitly assumed that authoritarians would obey (though not necessarily endorse) restrictive mitigation policies and would be unlikely to openly challenge them through acts of dissent. Because authoritarians are concerned with security and the maintenance of order, they tend to obey rules and support centralized leadership. Moreover, they tend to support punitive responses against individuals who defy authority figures and upset the prevailing social order, such as dissidents and anti-government activists. Gutting (2020), for instance, finds that protests against law enforcement leaders decreases support for protest movements among authoritarians. Other research shows that individuals exhibiting high levels of authoritarianism are less likely to engage in protests actions (Inguanzo, Mateos, and de Zuniga 2022) and less likely to engage in collective action more generally (Weiner and Federico 2017). Consequently, existing studies have suggested that the combination of authoritarians' sensitivity to pandemic threats coupled with their obedience to authority translate into higher support for restrictive mitigation policies (Bochiccio et al. 2021; Manson 2020; Peng 2021).

Rethinking Pandemic Threats and Authoritarian Responses

Despite the intuitive logic of arguments linking authoritarian disposition to support for pandemic strictions, previous studies examining this potential relationship exhibit several notably shortcomings that limit their ability to draw firm conclusions. First, several studies rely on measures of authoritarianism—such as the F-scale and the Right-Wing Authoritarianism scale—that potentially conflate authoritarianism with political ideology (Conway et al., 2018; Stone 1980) and are more likely to measure social values rather than a personality trait (Duckitt

et al., 2010; Duckitt and Bizumic 2013; Funke 2005). Second, existing studies have empirically focused more specifically on respondents' concern/fear about COVID-19 rather than their support/opposition for government mitigation policies (e.g., Peng 2021) while others have examined respondents' preferences for hypothetical policies that were neither advocated by political leaders nor imposed by authorities during the pandemic (Bochiccio et al. 2021; Manson 2020).[2] Such policies do not reflect the dramatic changes in social life that people experienced during the pandemic that we argue is key to understanding how authoritarianism relates to beliefs about COVID-19 mitigation policies. Finally, and most important for our study, to our knowledge no previous study has examined the relationship between authoritarianism and support for/participation in organized protests against COVID-19 mitigation.

Contrary to those studies, we articulate several reasons that authoritarians were more likely to challenge rather than endorse restrictive policies. The first of these relates to the changing information environment of the pandemic and its subsequent influence on individuals' perceptions of the severity of threat and—for authoritarians—the nature of the threat. During the initial months of the pandemic, the balance between the desires for security and individual autonomy tipped in favor of security for many individuals, largely because of the (then) unquantifiable potential risks associated with a global pandemic. However, as scientists rapidly acquired greater knowledge about COVID-19, public uncertainty and anxiety declined. With better knowledge of infection mitigation (e.g., masking), the introduction of

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[2] Examples of these hypothetical policies include bans on the sale of firearms, the closure of abortion clinics, the nationalization of the economy, and intrusive surveillance programs directed at churches and social organizations (see Manson 2021, 3).

effective treatments, and particularly the advent of vaccines in early 2021, the perceived physical threat of COVID-19 sharply diminished (see Savadori and Lauriola 2022).

While the perceived health risks of COVID-19 declined over time, the costs of the restrictions imposed in earlier phases became more readily apparent. Hard lockdowns—including the closure of schools, places of worship, businesses, government offices, and domestic and international transportation—persisted for months in many counties. In many cases, these restrictive policies were reinstated following periods of suspension. As we noted above, in some countries, such restrictions generated substantial grievances among many citizens, and provoked dissent—and occasionally violent unrest (Wood et al. 2022). Individual motives for participating in COVID-19 unrest undoubtedly varied; however, protests were most common following the imposition of restrictions that jeopardized financial well-being, severely disrupted the quotidian routines of individuals, and threatened cherished rights and privileges (Plümper, Neumeyer and Pfaff 2023; Wood et al. 2022). Consequently, protests emerged as larger numbers of individuals perceived that the threats resulting from pandemic mitigation policies exceeded the threats posed by COVID-19.

Disaggregating the nature of the threats posed by the pandemic provides additional theoretical insights into how different groups—including authoritarians—responded to it. While the material costs of restrictions (as physical consequences of infection) represent "realistic" threats, the social disruption they cause and their threat to group cohesion represent "symbolic" threats (Deason and Dunn 2022; Kachanoff et al. 2021). Due to its direct negative impact on physical health, the SARS-CoV-2 pathogens represented a realistic threat. Restrictions that hampered commerce and adversely impacted the economy likewise reflect realistic threat. Many other restrictions, however, represented symbolic threats, the perceived severity of which arguably increased as their duration lengthened. For example, schools, businesses, places of worship and other targets of restrictions represent key spaces in which

the prevailing social order is reproduced, social cohesion is strengthened, and community identity is reinforced. For many individuals, rules that restricted (physical) access to these spaces therefore represented a grave source of symbolic threat. Individuals that perceived COVID-19 as more of a symbolic threat reported *greater opposition* to restrictive pandemic mitigation policies than individuals that viewed it as a realistic threat (Kachanoff et al. 2021). Moreover, while authoritarians and non-authoritarians were equally likely to see COVID-19 as a material threat (to their health or well-being), authoritarians were significantly more likely to perceive the pandemic as a symbolic threat because its potential repercussions for group identity, traditions, and cohesion (Deason and Dunn 2022).[3]

This discussion suggests that authoritarians were more likely to see restrictive pandemic mitigation policies as a threat to the prevailing social order because they disrupted the patterns of human social interaction necessary for its maintenance. The imposition (and persistence) of these restrictive policies throughout 2020 arguably intensified these fears as the breakdown in community ties and erosion of social cohesion became apparent (see Borkowska and Lawrence 2021; Osofsky, Osofsky and Mamon 2020). Coupled with the declining perception of the physical threats posed by COVID-19 infection that occurred as knowledge about effective prevention strategies increased and new treatments—and eventually vaccines—

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[3] Deason and Dunn (2002) find most Americans viewed COVID-19 as both a realistic and symbolic threat (r=.23). While authoritarians and non-authoritarians perceived the realistic public health threat, authoritarians were *more* concerned than non-authoritarians about the symbolic threat of disruption to social institutions (347). This latter concern does not negate their concern over the public health threat.

became more widely available, authoritarians may have become more likely to perceive restrictions as more important sources of threat than the disease.[4]

Understanding the pandemic in this light is important because what is often seen as the key attribute of authoritarianism—obedience to authority—is more appropriately understood as a strategy through which authoritarians seek to minimize threats, maintain order, and exert control over their lives. Authoritarians perceive the world as inherently uncertain and threatening (Duckitt 1989; Feldman 2003; Lavine et al. 2002) and are thus motivated to adopt strategies (often punitive) that promote stability, security, and continuity (Duckitt and Sibley 2006; Filsinger and Freitag 2022). Authoritarians deep-seated desire to preserve the prevailing social order and oneness therefore represents the underlying motivation for behaviors commonly associated with authoritarians, such as deference to authority and aggression toward deviants and nonconformists (Feldman 2003; Feldman and Stenner 1997; Stenner 2005). Viewed in this way, authoritarianism functions more as a disposition oriented toward maintaining social order (often via aggression). (Feldman and Weber 2016).

This conceptualization has two important implications for understanding the relationship between the pandemic and authoritarianism. First, it suggests the possibility that deference to authority (*obedience*) and preferences for sanctions against dissidents (*authoritarian aggression*), which are typically viewed two of the classical three dimensions of authoritarianism (e.g., Adorno 1950; Duckitt et al. 2010), represent strategies to support authoritarianism's third dimension of preserving conventional society (Duckitt et al., 2010; Feldman 2020; Passini 2017). Second, it implies that authoritarians will challenge authority under specific circumstances. Principally, authoritarians can be expected to forego obedience

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[4] This change also occurred in the US because right-leaning leaders discounted the physical threat of the SARS-CoV-2 virus for political reasons. We discuss this below.

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(or obey alternative authority figures) under conditions in which they perceive that the positions or policies adopted by leaders represent a threat to social stability and traditions. To the extent that authoritarians perceived pandemic restrictions as symbolic threats to the social order they seek to preserve, they were arguably more likely to disapprove of such restrictions and to undertake actions to resist or challenge them.

Based on these arguments, we therefore contend that rather than supporting pandemic restrictions authoritarians were more likely to oppose such restrictions because the restrictions represented a more visible threat to their way of life. Specifically, we hypothesize:

> H1: *Authoritarians are more likely to protest against pandemic restrictions and more likely to express positive attitudes toward groups that oppose government pandemic mitigation restrictions than non-authoritarians.*

Elite Cues and the Conditional Effect of Political Ideology

Previous studies examining the relationship of public attitudes toward COVID-19 and pandemic restrictions have noted the importance of elite cues in shaping people's beliefs about COVID-19 mitigation policies (Bisbee and Lee 2022; Gadarian, Goodman, and Pepinsky 2022). President Trump's politicization of the pandemic, in particular, led to other right-leaning leaders and media to downplay the necessity of pandemic public health guidelines and restrictions. Right-leaning citizens picked up on these cues and begun to reject and protest lockdowns, mask requirements, and vaccine uptake. Ollerenshaw (2022) finds that levels of political engagement influenced the role of authoritarianism in predicting support for restrictive pandemic policies. Specifically, they suggest that authoritarianism among politically engaged individuals promoted cue-taking from right-leaning political elites, which in turn reduced their support for pandemic restrictions. While this identifies an important mechanism for right-leaning authoritarians to shift their support away from pandemic mitigation efforts, it is important to also detail how the effect of cueing is likely to differ across authoritarians on the right versus those on the left.

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By virtue of their political orientation and partisan allegiance (particularly in the US), right-leaning authoritarians are arguably more receptive to messaging by conservative elites who downplayed the risks of COVID-19, framed pandemic mitigation strategies as restrictions on freedom, questioned the safety of vaccines, and opposed vaccine mandates (Calvillo et al., 2020). Thus, we should expect little difference between conservative authoritarians and conservative non-authoritarian: both groups should be equally likely to oppose vaccines and mitigations efforts.

By contrast, attitudes toward pandemic mitigation measures are more likely to sharply diverge between authoritarian and non-authoritarian individuals that embrace a left-leaning political viewpoint. During the pandemic, left-leaning elites were more likely to endorse restrictive policies, lobby for these restrictions to remain in place for longer periods of time, and were more likely to advocate vaccine passports or other forms of vaccine mandates. Because left-leaning non-authoritarians viewed COVID-19 as primarily a realistic threat (e.g., to physical health), they were arguably more likely to follow cues from left-leaning elites that shared their political ideology. However, left-leaning authoritarians were comparatively more likely than their non-authoritarian counterparts to view pandemic restrictions as symbolic threats and more likely to seek a rapid return to normalcy in order to preserve and reconstruct previous forms of social order. They were therefore more likely to ignore cues from left-leaning elites and to oppose pandemic restrictions. As such, the attitudes and behaviors of left-leaning authoritarians are potentially more likely to mirror those of their counterparts on the political right.

Support for this proposition is also found in the body of research showing that some left-leaning individuals shift toward conservative policy positions in the face of social threats or abrupt changes in the status quo (Bonanno and Jost 2006; McGregor et al., 2001; Ullrich and Cohrs 2007). Since conservatives are generally more risk averse and routinely feel more

threatened than liberals (Choma et al., 2014; Smith et al., 2011), scholars have proposed the "reactive-liberals hypothesis," which argues that conservatives will be less reactive than liberals to situational threats (Nail et al., 2009). Several studies focusing on non-COVID-19 related issues confirm that liberals are sometimes more likely than conservatives to shift to conservative positions following threatening stimuli as a means to maintain social stability and traditional ways of life (Hetherington and Weiler 2009; van der Toorn et al., 2014; Van de Vyver et al., 2016). In essence, the emergence of a threat may prompt some liberals to adopt more conservative positions, while conservatives continue to maintain their right-leaning preferences. While previous studies haven't explored the characteristics of this subset of liberals, we propose that (at least in the context of COVID) it is the dimension of authoritarianism that leads to the split among those on the left.[5]

Notably, this shift toward more conservative policies and preference for the reassertion of the status quo is not uniformly distributed across those on the left. Instead, we expect left-leaning authoritarians, who are more likely to desire the maintenance of the status quo, to be more likely to adopt conservative positions. In the case of COVID-19, the disruption and perceived threat created by authorities' responses to the pandemic should compel left-leaning authoritarians to reject COVID-19 mitigation policies, such as masking and vaccine mandates. This subset of citizens should also be more likely to express an affinity for anti-vaccine protest

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[5] The Online Appendix show that left-leaning authoritarians *demographically* resembles proto-typical conservatives (less educated, more men, somewhat religious), but hold some liberal policy preferences (more supportive of the minimum wage and concerned about jobs; place their policy preferences to the left of conservatives and moderates). Left-leaning authoritarians were also equally as likely as non-authoritarian liberals to support Joe Biden in the 2020 election.

because these activities signal resistance to perceived changes in society and efforts to reassert the pre-pandemic order as quickly as possible. This leads us to expect:

> H2: *While left-leaning non-authoritarians are less likely to protest against pandemic restrictions and less likely to express positive attitudes toward groups that oppose government pandemic mitigation restrictions than their right-leaning counterparts, these differences disappear as the strength of authoritarian attitudes increases.*

Survey Data and Empirical Strategy

We test these hypotheses using three surveys, each conducted by YouGov, in two different countries (United Kingdom or UK and United States or US) between late 2020 and early 2022. First, we draw upon the 2020 Western States Survey (WSS), which is a study of the 2020 U.S. presidential election conducted between October 25 and November 9, 2020 within five states in the Western United States (Arizona, Colorado, Nevada, New Mexico, and Utah). The WSS sample includes a total of 3,000 adult respondents (18+), who were matched to each state's respective population and an additional 600 Latino respondents across all five states.[6] Second, we analyze data from two nearly identical nationally representative surveys regarding COVID-19.[7] The surveys were administered by YouGov in both the UK and US between 17 January 2022 and 21 January 2202. These surveys were deployed to 5,900 (US *n*=2,947; UK *n*=2,953) adult (18+) respondents. The samples were drawn from YouGov's respondent pool and matched on demographic and political variables to each country's populations using data from each country's census and various commercial surveys. The samples were representative of the national population based on several standard demographic factors (e.g., education, age,

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[6] Details of each survey appear in the Online Appendix.

[7] These surveys differed only on the terms and jargon used in the respective countries (e.g., "jab" vs. "vaccination").

gender, etc.), but oversampled respondents from ethnic/racial minority groups in both countries.

We conduct our principal analyses on a subset of these survey data. Specifically, we limit our analyses to racial and ethnic white non-Hispanics survey respondents in each of the samples. We focus on this subset of respondents because previous studies have demonstrated that a commonly used measure of authoritarianism that relies on respondent attitudes about child rearing—which we use here (see below)—is invalid in the context of cross-racial analyses (Pérez and Hetherington 2014). Consequently, the subsets of data we ultimately use in our principal analyses comprise 1,676 white respondents from the WSS, 1,350 from US-wide survey and 1,783 from the UK sample. The results presented below are robust to the inclusion of the full sample for each data set (see Online Appendix Figures A6-A9).

Authoritarianism

The traditional F-scale measure of authoritarianism has been criticized for being too close to political attitudes risking tautological relationships as well as having low reliability estimates (Feldman and Stenner 1997, 747). Feldman and Stenner (1997) propose an alternative measure based on a set of child-rearing values that is strongly correlated with traditional measures of authoritarianism, but it contains no explicit political content. We adopt this measure of authoritarianism for this study helping ensure authoritarianism is distinct from political ideology and related political beliefs.

For all three surveys, respondents were given four pairs of traits and for each pair asked which trait is more desirable for a child. The trait pairs "Independence" and "Respect for elders;" "Obedience" and "Self-reliance;" "To be considerate" and "To be well-behaved;" and "Curiosity" and "Good manners." Respondents that prefer a child to have respect for elders, obedience, to be well-behaved, and to have good manners indicate a more authoritarian

disposition. Respondents who prefer a child who is independent, self-reliant, considerate, and curious indicate a non-authoritarian disposition. Responses to the items are added together and normalized to create a 0 (non-authoritarian) to 1 (authoritarian) scale [WSS: α=.69, Mean=.44, SD=.36], [US: α=.56, Mean=.45, SD=.32], and [UK: α=.60, Mean=.42, SD=.32].

Engelhardt, Feldman, and Hetherington (2021) show that the child-rearing measure represents a stable disposition exogenous to most political attitudes (including political ideology), but that it is nonetheless related to the classic Right-Leaning Authoritarianism (RWA) scale, which is the scale used in many recent studies examining the link between authoritarian attitudes and pandemic restrictions. Although it's not possible to demonstrate that people's preferences toward child rearing (and thus authoritarian disposition) is completely exogenous from the pandemic with our observational data, it is unlikely many people changed how they want to raise their children due to protest activities or disease mitigation efforts. This assumption of exogeneity fits with existing evidence in other politically charged contexts (Engelhardt, Feldman, and Hetherington 2021; Feldman and Stenner 1997; Feldman and Weber 2016).

Support for Organized Opposition to Pandemic Restrictions
The WSS and the UK/US surveys each included different questions assessing respondents' attitudes toward pandemic dissident activities. Participants in the WSS survey were asked if they "participated in a protest opposing pandemic guidelines." This measure provides perhaps the most difficult test of the theory since it attempts to connect authoritarian dispositions with an actual protest behavior. The WSS also contains questions asking respondents if they had engaged in some of the most prevalent public health recommendations during the early phases of the pandemic: wearing a face mask, quarantining in their home, and physically distancing from others. We rely on these questions to check the robustness of our argument and to examine

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whether it extends beyond protest support and behavior to defiance of the restrictions themselves. Responses for each question are binary indicating if the respondent engaged in the behavior or not.

In the UK/US surveys, respondents were asked to indicate if they agree or disagree with five statements about organized activist groups that seek to discourage people from getting a COVID-19 vaccine. Specifically, there were asked whether they believed that these groups: "benefit society," "raise important questions," "hold government accountable," represent a "threat to public health," and "influence public thinking". Respondents rated these statements on a 1 (strongly disagree) to 5 (strongly agree) scale. While these questions focus on attitudes toward anti-vaccine protests and rather than anti-lockdown protests specifically, they should nonetheless capture similar sentiments towards the programs of restrictive pandemic mitigation policies governments in the UK and US imposed on their citizens. In late 2021, national and sub-national political authorities in both countries adopted various policies that mandated proof of vaccine for participation in some indoor events.[8] Moreover, anti-vaccine and anti-lockdown activism and protests often converged, with protesters perceiving the governments' efforts to promote vaccination and their efforts non-pharmaceutical mitigation strategies (e.g., mask mandates, social distancing, travel bans) as part of the same broader coercive approach to the pandemic.

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[8] These policies varied widely across US states and municipalities and across the devolved nations of the UK. Most US states did not impose such restrictions, though many considered them, and some (such as New York) required them for many types of indoor activities. Throughout the UK, proof of vaccine (or negative test) was required for access to large events. In Northern Ireland, however, vaccination was also required for access to pubs and restaurants.

Responses were generally more favorable to anti-vaccine protest groups in the US relative to the UK (see Online Appendix). To examine the latent structure of these beliefs, we performed an exploratory factor analysis (EFA). The EFA yielded a one factor solution [UK: Eigenvalue=2.00, US: Eigenvalue=2.13] with the "influence public thinking" question loading poorly on the factor in both samples. We therefore remove that item from the analyses. All other factor loadings are above .6. We average responses to the items to create a single *Protest Belief* scale [UK: α=.80, US: α=.82].

Control variables

In each model, we control for respondent age, education level, and gender. In the UK/US surveys, we measure trust in public officials with an index consisting of trust in physicians, the national government, and local government. In the WSS, we measure trust in scientists. Thus, the models are not exactly comparable, but we have a wide range of authority figures being tested across the models. In the UK/US surveys, social media use is the amount spent each day viewing online content. In the WSS, social media use is whether the respondent uses social media (e.g., Twitter, Facebook) as a news source. Higher values indicate greater social media use. In the UK/US surveys, urban indicates if the respondent resides in an urban/city area (including suburb in the US) versus a rural area or township. In the UK/US studies, religion is a binary indicator where 1 equals a religious denomination showing a significant bivariate correlation with authoritarianism and 0 otherwise. The WSS contains a similar variable for religious denomination as well as indicators of church attendance and whether the respondent believes in a "born again" doctrine.

Partisanship is coded where higher values reflect either Tory (UK) or Republican (US) Party affiliation. Ideology is coded on a 7-point scale in the UK and a 5-point scale in the US and WSS surveys. Higher values reflect conservative identification.

In the UK/US studies, we are able to control for each respondent's concern about COVID-19 using responses to a question that asked if COVID-19 (a realistic threat) or the vaccine (a symbolic threat) presents a greater harm. Although asking people to make a trade-off in this manner might not best capture people's concern toward both attitude objects, we find that its inclusion does not alter our results.

Finally, given that state or regional policies may relate to protest and mitigation beliefs and behaviors we include state fixed effects for the US and WSS models and regional fixed effects for all UK models. Details of all measures are described in the Online Appendix.

Results and Discussion

We estimate support for protest groups separately for the US and the UK by regressing the index of protest group support on authoritarianism using Ordinary Least Squares (OLS) models. We rely on a probit regression to estimate whether respondents in the WSS survey were engaged in COVID-19 related protest behavior. Coefficient estimates and 95% confidence intervals for all three models are shown in Figure 1. We present the results of the UK/US study in the left-panel and the results using the WSS sample on the right. Across all three samples, authoritarianism is positive and statistically significant. Thus, respondents scoring higher on the authoritarian scale are *more supportive* of protest groups and *more likely* to indicate they were involved in a protest. The authoritarian coefficient is larger in the US than the UK sample indicating authoritarianism has a stronger influence on beliefs about protest groups in the US than the UK, $F_{(1,\ 3133)} = 4.38$ p<.03.

The effect size estimates show authoritarianism is substantively similar or greater than other dominant explanations of COVID-19 mitigation beliefs and behaviors. In the US, authoritarianism has a larger marginal effect on protest group support (ME=.12, se=.02) than trust in public officials (ME=-.08, se=.01) and partisanship (ME=.04, se=.01). In the UK, authoritarianism has a similar marginal effect on protest group support (ME=.04, se=.01) as trust in public officials (ME=-.05, se=.01) and partisanship (ME=-.06, se=.01). In the WSS estimates, authoritarianism has a similar average marginal effect on protest involvement (ME=.02, se=.01) as trust in scientists (ME=-.01, se=.00) and partisanship (ME=.02, se=.01). Thus, we have strong support for H1 from three different surveys conducted at different time periods during the pandemic.
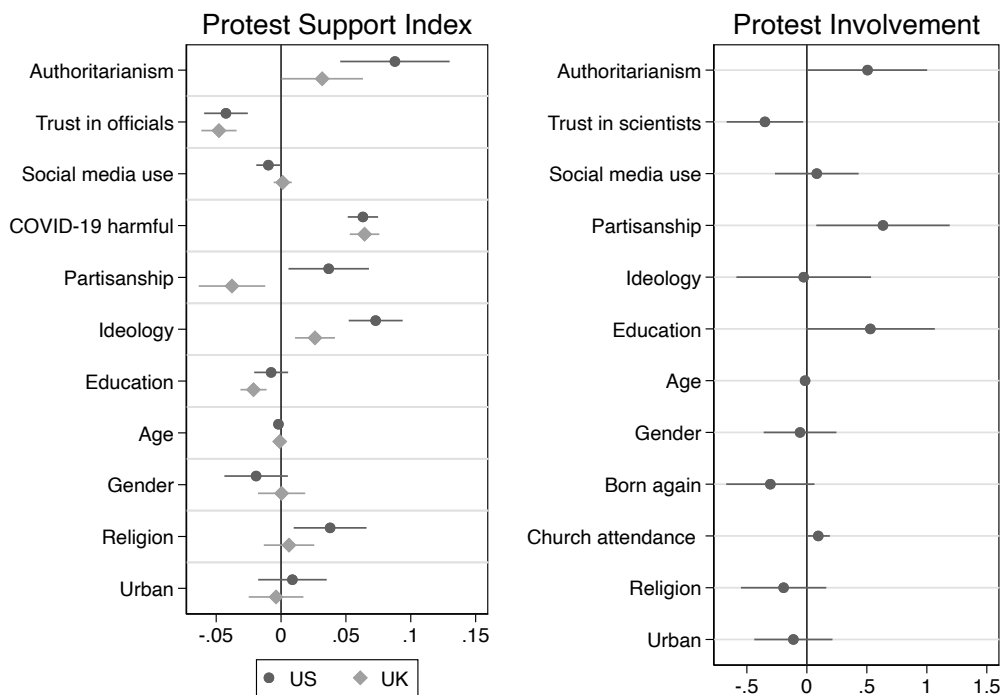
Figure 1: Estimates of support for protest and protest activity
The figures present regression estimates (circles/diamonds) and 95% confidence intervals (bars) for each model. The left-hand panel reports OLS estimates of support for protest groups using data form the US (N=1,350) and UK (N=1783), while the right-hand panel reports probit estimates of protest involvement using the WSS data (N=1,676). Models include state (US, WSS) or region (UK) fixed effects. All models show results for White respondents only.

The WSS survey contains responses to three additional questions that show the robustness of the findings above. These questions asked respondents if they had engaged in some of the most common public health recommendations during the early phases of the pandemic: wearing a face mask, quarantining in their home, and physically distancing from others. If the traditional view of authoritarianism is correct, then we should observe authoritarians more likely to engage in these authority recommended behaviors. However, if authoritarians are more concerned about maintaining order and the status quo, then they should be less likely to follow these recommendations because such restrictive disrupt quotidian routines and impede the normal patterns of human social interaction that maintain that order.

Figure 2 shows probit regression estimates of engaging in each mitigation behavior. Authoritarianism is negative in all three models. The effect is statistically significant in both the masking and social distancing model and approaches statistical significance in the quarantine model. Overall, there is evidence that authoritarians are *less likely* to engage behaviors recommended by public health and government authorities.

The effect size estimates also show authoritarianism is substantively similar to other dominant explanations of COVID-19 mitigation beliefs and behaviors. Authoritarianism has a

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similar average marginal effect on mask wearing (ME=-.05, se=.02) as trust in scientists (ME=.05, se=.01) and a larger effect than partisanship (ME=-.01, se=.02). We find similar marginal effects for the social distancing and quarantine models. Marginal effect estimates show that for a Republican who doesn't trust scientists, moving from the minimum to maximum of the authoritarian scale decreases mask wearing by 9%, social distancing by 13%, and quarantining by 5%. For a Democrat who trust scientists, moving from the minimum to maximum of the authoritarian scale decreases mask wearing by 4%, social distancing by 6%, and quarantining by 5%.
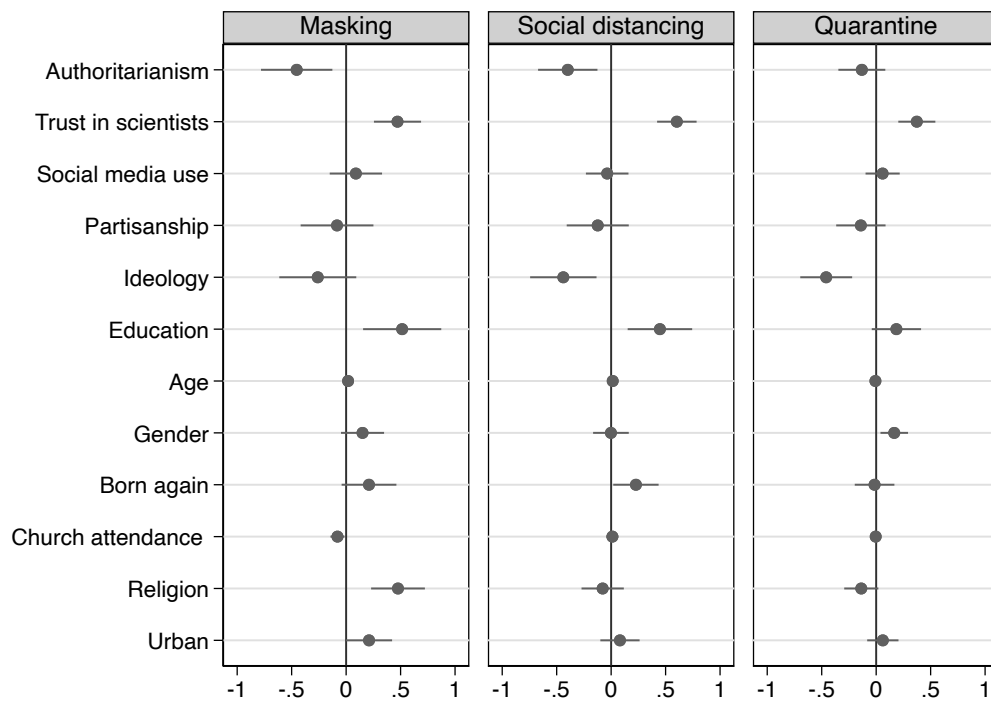

Figure 2: Estimates of COVID-19 mitigation behaviors
Note: Probit estimates and 95% confidence interval for each behavior with state fixed effects. Data from the 2020 WSS (N=1,676).

Next, we examine the conditional hypothesis that authoritarianism might have a differential effect among liberals and conservatives. Most research on why the public supports COVID-19 mitigation efforts points to clear political cleavages---conservatives generally oppose mitigation efforts and liberals generally support those efforts. Yet, estimating each model with an interaction between authoritarianism and political ideology reveals that authoritarian liberals acted in similar ways to conservatives regarding pandemic restrictions.

Figure 3 shows the predicted probability of support for protest groups in the US and UK data for liberals and conservatives across the authoritarianism scale (complete model results shown in the Online Appendix). In both models, non-authoritarian conservatives are more supportive of protest groups than non-authoritarian liberals as would be expected. Yet, as authoritarianism increases for liberals, they become just as supportive of protest groups as authoritarian conservatives. At the highest levels of authoritarianism, there's no statistically significant difference between conservatives and liberals. In other words, authoritarianism moves liberals from the proto-typical liberal position and into the proto-typical conservative position. The figure relies on the same y-axis scale for both countries to demonstrate that 1) the initial gap between liberals and conservatives is larger in the US and 2) the total movement of liberals toward the conservative positions is also much larger in the US than the UK.
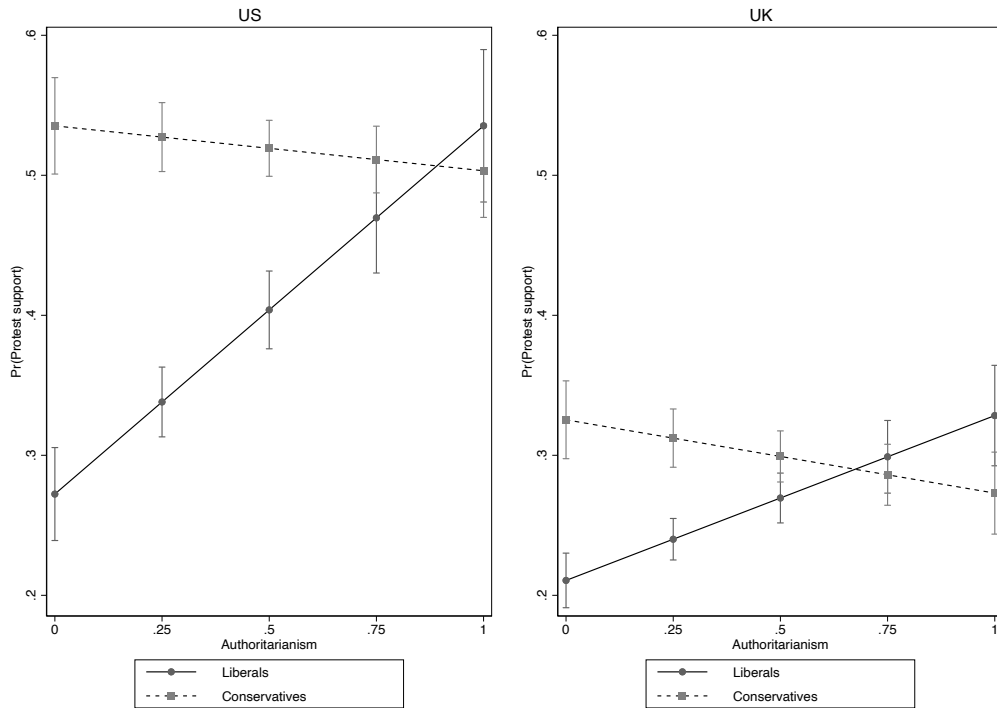
Figure 3: Conditional effect of ideology on support for protest and protest activity
Predicted probabilities (with confidence intervals) for the effect of ideology (solid or dashed
lines) on support for protesters (y-axis) over the range of the authoritarianism scale (x-axis).

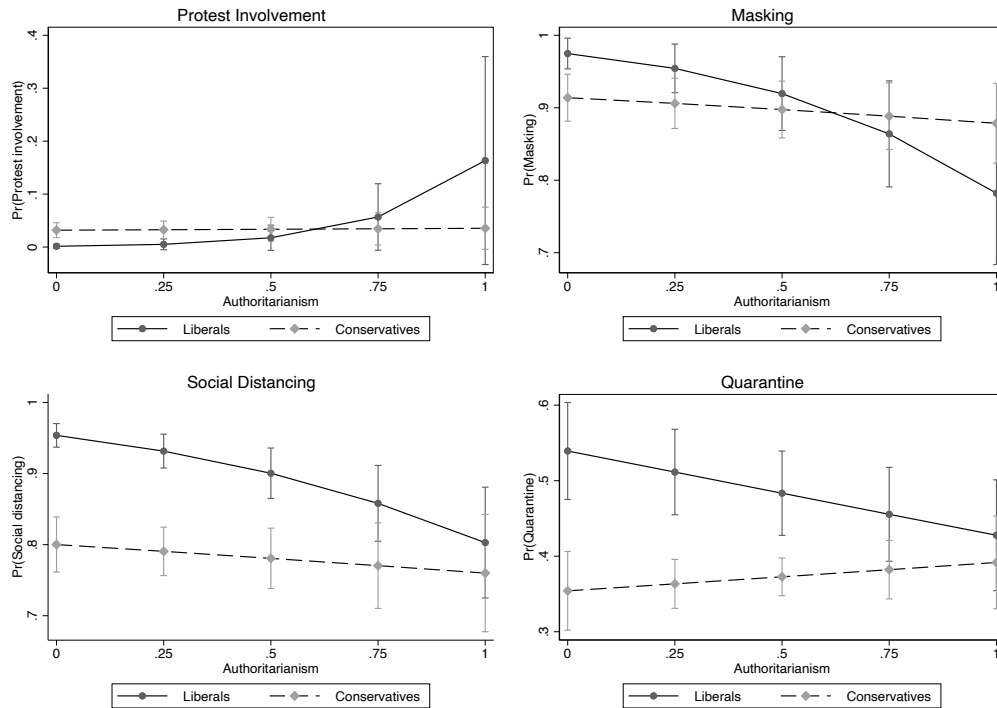**Figure 4: Conditional effect of ideology on support for protest involvement and mitigation behaviors**

Predicted probabilities for the effect of ideology (solid or dashed lines) on protest involvement (top-left), use of facemask (top-right), social distancing (bottom-left), and quarantining (bottom-right) over the range of the authoritarianism scale (x-axis).

Figure 4 shows additional tests of the conditional hypothesis using the WSS data. All four panels show a statistically significant interaction between ideology and authoritarianism (complete model results shown in the Online Appendix). Among non-authoritarians, liberals are less likely to have engaged in a protest than conservatives. Yet, at the highest levels of authoritarianism liberals are just as likely as conservatives to have engaged in a protest--- perhaps more so given their higher point estimate. Among non-authoritarians, liberals are more likely than conservatives to wear a mask in public. Yet, as liberals become more authoritarian, they become less likely to wear a mask engaging in similar behaviors as conservatives. Similar results appear in the other models.[9]

Across all six interaction models, we find support for the conditional hypotheses uncovering an important reason why some liberals acted and held beliefs similar to their conservative counterparts during the COVID-19 pandemic. These results are also important because it means that authoritarianism isn't simply an artifact of its correlation with right-leaning ideology. Political liberals high in authoritarianism would be unlikely to follow out-group cues from right-leaning leader such as President Trump. Yet, they still appear more likely to support protest groups and oppose COVID-19 mitigation behaviors. This should minimize concerns that the effect of authoritarianism shown in Figures 1 and 2 are simply due to authoritarians following ideological leaders on the right.

The large confidence intervals among liberals high in authoritarianism raises a concern that the results are driven by a few outliers or mislabeled liberal authoritarians. Examining cross-tabulations of authoritarianism and ideology minimizes this concern. Within the UK/US

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[9] Tables A6-A8 in the Online Appendix show evidence that liberal authoritarians resemble conservatives demographically (less educated, more men, somewhat religious), but hold liberal economic views toward jobs and the minimum wage.

data, there are 313 white liberal respondents (30% of all liberals) scoring above the mid-point of the authoritarianism scale (11% within the highest authoritarianism category). In the WSS, 24% of liberals (137 white respondents), score above the mid-point of the authoritarianism scale (16% within the highest authoritarian category).

We further probe the idea that cue taking drives the relationship between authoritarianism and support for protests in the Online Appendix. We find that the conditional relationship holds even when we subset the US data to only Biden voters who would have been unlikely to be responsive to cues from President Trump and other right-leaning leaders. Although there was no equivalent partisan gap in the UK, the results also hold when we subset the data to non-Tory voters and non-Brexit voters. The WSS data allows an even more direct test with a comprehensive measure of right-wing news viewership---a prime venue for pro-protest information and anti-COVID-19 mitigation information. We fail to find attention to right-leaning media interacts with authoritarianism in shaping protest involvement or mitigation behaviors. Given the evidence that cue taking is unlikely the driving mechanism here, and the established finding in the literature that the child-rearing measure of authoritarianism is apolitical (Engelhardt, Feldman, and Hetherington 2021; Feldman and Stenner 1997), we have some added confidence that dispositional authoritarianism in itself is playing some role in support for anti-vax/anti-mitigation protests as well as diminishing engagement in COVID-19 mitigation behaviors.[10]

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[10] To be clear, we are not arguing that cue taking did not occur during the pandemic. Instead, our argument is that cues are unlikely to be driving authoritarian liberals into conservative pandemic behaviors and attitudes.

Conclusion

In this study, we investigated the effect of authoritarianism on people's beliefs about efforts to mitigate a deadly pathogen---COVID-19. We compared three samples: one during the first year of the pandemic prior to the approval of a vaccine and two during the later stages of the pandemic once several vaccines had been approved and administered some segments of the public. We had little reason to believe the relationship between authoritarianism and COVID-19 related beliefs would change over this time period and generally find consistent effects across these phases of the pandemic as well as across the two countries sampled.

Many assumed the pandemic would increase public support for authoritarian policies and governments (Filsinger and Freitag 2022; Pazhoohi and Kingstone 2021; Zmigrod 2021). We are able to show that dispositional authoritarianism correlated with less support for strict government (authoritarian) policies. Specifically, we show that respondents are more likely to believe anti-vaccine protests are legitimate, and more likely to have engaged in such protests, when they exhibit an authoritarian disposition. Authoritarianism also doesn't relate to support for mitigation efforts that were often framed as repressive. Contrary to the idea that authoritarianism automatically breeds support for government authorities and those in power, authoritarians resisted what were often seen as punitive government restrictions. Thus, we must rethink the conditions and contexts in which authoritarianism is likely to result in support for punitive authority figures. It may be that authoritarians likely follow punitive leaders when the status quo is threatened and such leaders are seen as key to preservation of the group---conditions that were not clearly delineated during the pandemic.

We suggest these findings are due to the nature of authoritarianism to derive from a need for stability and order. The results are consistent with such an argument and the multi-dimensional conceptualization of authoritarianism. This is important because it shows how a

dispositional trait such as authoritarianism can have different consequences across different contexts. The COVID-19 pandemic brought authority figures into conflict resulting in a great deal of polarization. The result of this polarization was the failure of many to properly mitigate against the virus prolonging the negative health, social, and economic consequences of the pandemic. But it wasn't merely people trusting in like-minded politicians that led to differences in beliefs about mitigation. Such trust mattered. But people's authoritarian inclinations also shaped whether they engaged in mitigation efforts, supported protests against mitigation efforts, and believed in vaccine misinformation.

In addition, we add to the study of the role of political ideology within the context of COVID-19. Those on the right are often discussed as almost inevitably opposing COVID-19 mitigation efforts, while those on the left are destined to support such efforts. We uncover why some political liberals failed to support mitigation efforts---because they hold an authoritarian disposition. Thus, this study has identified a potentially important dispositional trait that creates an important source of heterogeneity in the policy preferences and public health behaviors of left-leaning citizens (also see Wronski et al., 2018). These citizens might have personality and demographic characteristics similar to those on the right, but for some reason are drawn into liberal policies, we suspect liberal economic policies in particular. This means they are willing to deviate to the right on non-economic matters as shown here.

These findings must be taken in light of two limitations of this study. First, the observational nature of survey research of this kind does not allow us to make inferences about causality nor do we strictly identify a causal effect between authoritarianism and protests/mitigation outcomes. It is possible that the pandemic pushed people into changing their beliefs about child-rearing although we suspect such change would not have been widespread (if at all likely given the demonstrated stability of such beliefs). Moreover, the major concern would be if those opposed to mitigation efforts desired less independence in their children and

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more obedience. Such a concern seems unlikely given that those opposed to mitigation efforts frequently called for more independent thinking---a common meme among those opposed to mitigation efforts and vaccine uptake. Those who supported the protests (an act of civil disobedience) were unlikely to in turn increase their desire to have obedient children. In addition, our findings counter the idea that the pandemic resulted in more situational (as opposed to dispositional) authoritarianism as those with authoritarian dispositions were more likely to oppose government restrictions (they exhibited less situational authoritarianism).

A second limitation in understanding the link between authoritarianism and anti-mitigation efforts is the lack of data that measure both realistic and symbolic threats along with beliefs and about mitigation efforts. Deason and Dunn (2022) show that authoritarians viewed symbolic threats such as mitigation efforts as more threatening than the health threats from COVID-19 providing evidence for our assumed mechanism that links authoritarianism and mitigation behaviors. And the relationship between authoritarianism and mitigation behaviors we find across data sets is consistent with such a finding although we cannot rule out alternative casual linkages.

Although we lack measures of symbolic and realistic threats, the Online Appendix shows a model where we interact whether respondents viewed COVID-19 or the vaccine as more harmful with authoritarianism. This test shows that authoritarianism has a greater effect on support for anti-vaccine protests among respondents who view the vaccine as more harmful than COVID-19, which is consistent with our argument that authoritarianism relates to support for anti-vaccine protests because authoritarians were concerned about lockdowns, mandates (including vaccine mandates) and other mitigation efforts.

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Authoritarian Opposition? Authoritarian Disposition and Resistance to Public Health Mitigation Strategies during COVID-19

Online Appendix

US and UK Survey Details

YouGov administered the initial survey instrument to 5,900 (US *n*=2,947; UK *n*=2,953)) adult (18+) respondents. This sample was drawn from YouGov's respondent pool and matched on demographic and political variables to each country's populations using data from census data and various commercial surveys. The samples were representative of the national population based on several standard demographic factors (e.g., education, age, gender) and estimates of political preferences/behavior (e.g., partisanship, ideology, voting behavior). Wave 1 of the survey was deployed between 17 January 2022 and 21 January 2202, while Wave 2 was deployed between 7 February 2022 and 16 February 2022. A total of 4,519 respondents participated in the second wave (US *n*=2,216; UK *n*=2,303), yielding a recontact rate of 77%.

Measurement in US and UK Surveys

Authoritarianism
Although there are a number of qualities that people feel children should have, every person thinks some are more important than others. Please indicate which quality from each pair is more desirable for a child to have:
- Independence or Respect for elders
- Obedience or Self-reliance
- To be considerate or to be well-behaved
- Curiosity or Good manners
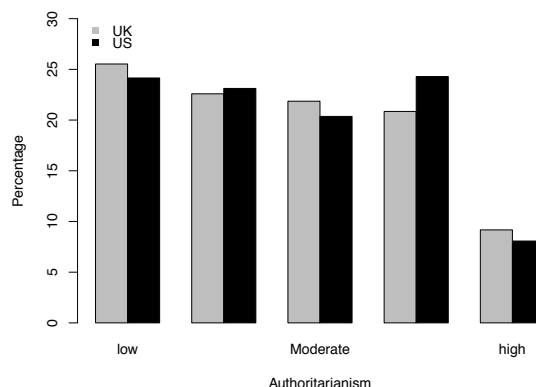
Figure A1: Distribution of authoritarianism in UK and US surveys

Ant-vaccine Protest Support
Please indicate whether you agree or disagree with the following statements about activist groups that discourage people from getting a COVID-19 vaccine….

a) They act in ways that benefit society (UK: M=1.93, SD=1.02) (US: M=2.57, SD=1.28)
b) They raise important questions that deserve more attention (UK: M=2.53, SD=1.14) (US: M=3.04, SD=1.30)
c) They influence the way people think about COVID-19 vaccines (UK: M=3.42, SD=.94) (US: M=3.57, SD=.96)
d) They hold the government accountable for its policies (UK: M=2.69; SD=1.13) (US: M=3.04, SD=1.24)
e) They are a threat to public health (UK: M=3.86, SD=1.13) (US: M=3.35, SD=1.35)
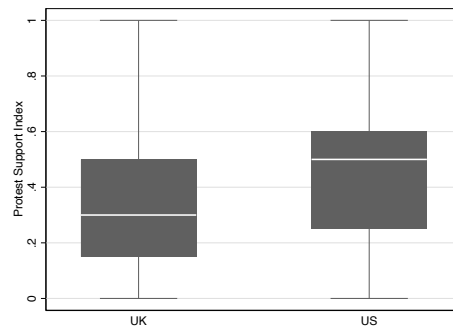
Figure A2: Distribution of support for protest groups in US/UK samples

COVID-19 Harmful
Being infected with COVID-19 is more likely to harm people than receiving a COVID-19 vaccination?

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Social media use
On an average day, across all social media sites (Facebook, Twitter, TikTok, Instagram, etc), how many hours do you think you spend viewing online content.
- None
- Less than one hour
- Between 1 hour and 2 hours
- Between 2 hours and 4 hours
- More than 4 hours

Trust in officials
How much trust, if any, do you have that each of the following will act in ways that benefit public well-being? A Doctor or Physician (factor loading=.55); National Government (factor

loading=.72); Local Government (factor loading=.76). Factor Eigenvalue=1.41; Index α=.75.
Trust in officials US: Mean=2.94, sd=.97. Trust in officials UK: Mean=3.06, sd=.78.
- No trust
- Low trust
- Moderate trust
- High trust
- Complete trust

Partisanship (US)
What is your political affiliation?
- Republican (31%)
- Democrat (33%)
- Libertarian (3%)
- Green (1%)
- Other party (1%)
- Unaffiliated or Independent (26%)

Partisanship (UK)
Which of the following parties, if any, best represents your political preferences?
- Conservative (30%)
- Labour (21%)
- Liberal Democrats (7%)
- Scottish National Party (SNP)(3%)
- Plaid Cymru (>1%)
- Brexit Party/Reform UK (3%)
- UKIP (1%)
- Green (5%)
- Another Party (1%)
- No party (25%)

Political ideology (US)
In general, how would you describe your own political viewpoint?
- Very liberal (13%)
- Liberal (17%)
- Moderate (32%)
- Conservative (21%)
- Very conservative (16%)
- Not sure (>1%)

Political ideology (UK)
Some people talk about politics in terms of left and right. On a left-right scale from 0 to 6, with 0 indicating extreme left and 6 indicating extreme right, where would you place yourself.
- Extreme left (3%)
- Left (9%)
- Leaning left (22%)
- Center (35%)
- Leaning right (24%)
- Right (6%)
- Extreme right (1%)

Religion (UK)

Do you regard yourself as belonging to any particular religion, and if so, to which of these do you belong?

1. No, I do not regard myself as belonging to any particular religion
2. Church of England/Anglican/Episcopal
3. Roman Catholic
4. Presbyterian/Church of Scotland
5. Methodist
6. Baptist
7. Orthodox Christian
8. Pentecostal (Assemblies of God, New Testament Church of God)
9. Evangelical (e.g., FIEC, Pioneer, Vineyard)
10. United Reformed Church
11. Free Presbyterian
12. Brethern
13. Judaism
14. Hinduism
15. Islam
16. Sikhism
17. Buddhism
18. Other
19. Prefer not to say

Categories 2, 3, 4, 5, 6, 8, and 12 show a bivariate correlation with authoritarianism. These categories are combined in the religion variable (religion=1) and contrasted with the remaining categories (religion=0).

Religion (US)

What is your religious preference?

1. Protestant
2. Catholic
3. Another type of Christian (open)
4. Jewish
5. Muslim
6. None
7. Some other religion (open)

Categories, 2, 3, 4, 6, and 7 show a bivariate correlation with authoritarianism. These categories are combined in the religion variable (religion=1) and contrasted with the remaining categories (religion=0).

Western States Survey Details

YouGov provided a matched sample of 3,000 respondents from its online panel. An oversample of 600 Latinos were concurrently interviewed for a total of 3,600 respondents. The respondents were matched to a sampling frame on key demographic variables such as gender, age, race, and education. The frame was constructed by stratified sampling from the full 2018 American

Community Survey 1-year sample with selection within strata by weighted sampling with replacements.

The cases were weighted to the sampling frame using propensity scores. The propensity score function included age, gender, race/ethnicity, years of education, and region. The propensity scores were grouped into deciles of the estimated propensity score in the frame and post-stratified according to these deciles. The weights were then post-stratified on 2016 Presidential vote choice, and a four-way stratification of gender, age (4-categories), race (4-categories), and education (4-categories), to produce the final weight.

Measurement in Western States Survey

Authoritarianism
Which one you think is more important for a child to have?

- a) Obedience or Self-reliance
- b) To be considerate or to be well-behaved
- c) Curiosity or Good manners
- d) Independence or Respect for elders
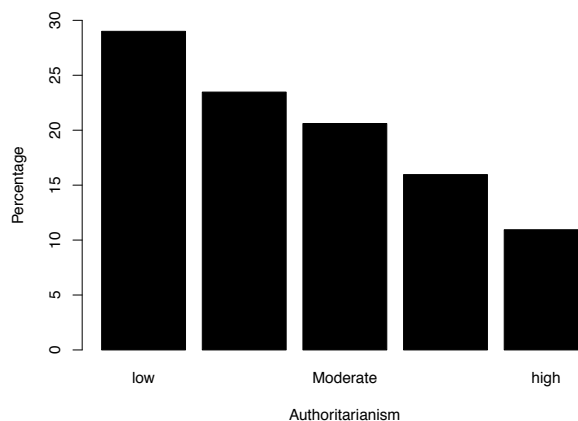
Figure A3: Distribution of Authoritarianism in the Western US States

COVID-19 Policy Support
Which of the following actions have you taken in the past month? (Please check all that apply)

- a) Participated in a protest opposing pandemic guidelines (2.3% selected)
- b) Worn a face mask in a public place (88% selected)
- c) Stayed six feet away from other people outside your home (80% selected)
- d) Quarantined in your home (49% selected)

Trust in scientists

How much confidence, if any, do you have in each of the following to act in the best interests of the public?….Scientists and other experts

- A great deal of confidence
- A fair amount of confidence
- Not too much confidence
- No confidence

Social media use
When there is a big news story in the United States, which of the following news sources would you be likely to visit to find reliable information?….Social Media (Facebook, Twitter, Instagram).

Political ideology
In general, how would you describe your own political viewpoint?
- Very liberal
- Liberal
- Moderate
- Conservative
- Very conservative
- Not sure

Partisanship
Generally speaking, do you think of yourself as a …?
- Democrat
- Republican
- Independent
- Other

Church attendance
Aside from weddings and funerals, how often do you attend religious services?

- More than once a week
- Once a week
- Once or twice a month
- A few times a year
- Seldom
- Never
- Don't' know

Born again
Would you describe yourself as a "born-again" or evangelical Christian, or not?

- Yes
- No

Religion
What is your present religion, if any?
- Protestant
- Roman Catholic
- Mormon
- Easter or Greek Orthodox

- Jewish
- Muslim
- Buddhist
- Hindu
- Atheist
- Agnostic
- Nothing in particular
- Something else

Right Wing Media
When there is a big news story in the United States, which of the following news sources would you be likely to visit to find reliable information?….[Any of the following mentions: Alex Jones, American Thinker, Bill O'Reilly, Blaze, Breitbart, Drudge Report, The Daily Caller, Daily Wire, Dan Bongino, Epoch Times, Fox News, Gateway Pundit, Newsmax, One America News Network, Red State, and Rush Limbaugh.]

US/UK Survey Estimates

Table A1 shows the OLS regression estimates from the US and UK support for protest group models plotted in Figure 1 of the manuscript.

Table A1: Estimates of support for protest groups

	US	UK
Authoritarianism	0.09*	0.03*
	(0.02)	(0.01)
Trust in officials	-0.04*	-0.05*
	(0.01)	(0.01)
Social media use	-0.01*	0.00
	(0.00)	(0.00)

	US	UK
COVID-19 harmful	0.06*	0.06*
	(0.01)	(0.01)
Partisanship	0.04*	-0.04*
	(0.02)	(0.01)
Ideology	0.07*	0.03*
	(0.01)	(0.01)
Education	-0.01	-0.02*
	(0.01)	(0.01)
Age	-0.00*	-0.00*
	(0.00)	(0.00)
Gender	-0.02	0.00
	(0.01)	(0.01)
Religion	0.04*	0.01
	(0.01)	(0.01)
Urban	0.01	-0.00
	(0.01)	(0.01)
Constant	0.43*	0.35*
	(0.05)	(0.04)
N	1,351	1,783

Data from US and UK YouGov surveys. Coefficients are OLS estimates with standard errors in parentheses and state (US) or region (UK) fixed effects (not shown). * $p < 0.05$.

Estimates of authoritarianism and political ideology

Table A2 shows the OLS regression estimates of a model that includes an interaction between authoritarianism and political ideology in the US and UK surveys. These estimates are used to estimate the predictions shown in Figure 3 in the manuscript.

Table A2: Interaction Estimates of Support for Protest Groups

	US	UK
Authoritarianism	0.24*	0.12*
	(0.04)	(0.02)
Ideology	0.13*	0.06*
	(0.02)	(0.01)
Authoritarianism * Ideology	-0.14*	-0.09*
	(0.03)	(0.02)
Trust in officials	-0.04*	-0.05*
	(0.01)	(0.01)
Social media use	-0.01*	0.00

	(0.00)	(0.00)
COVID-19 harmful	0.06*	0.06*
	(0.01)	(0.01)
Partisanship	0.04*	-0.03*
	(0.02)	(0.01)
Education	-0.01	-0.02*
	(0.01)	(0.01)
Age	-0.00*	-0.00*
	(0.00)	(0.00)
Gender	-0.01	0.00
	(0.01)	(0.01)
Religion	0.03*	0.00
	(0.01)	(0.01)
Urban	0.01	-0.00
	(0.01)	(0.01)
Constant	0.39*	0.35*
	(0.07)	(0.04)
N	1,351	1,783

Data from US and UK YouGov surveys. Coefficients are OLS estimates with standard errors in parentheses and state (US) or region (UK) fixed effects. (not shown). * $p < 0.05$.

Estimates of authoritarianism and political ideology proxying elite cues

Figure A4 shows the interaction estimates in the US and UK surveys for (panel 1) only Biden voters, (panel 2) voters opposing Brexit, and (panel 3) Corbyn Prime Minister voters. We assume all of these voters would be less likely to be responsive to conservative cues, due to their support for left candidates/causes, downplaying the pandemic and mitigation efforts. The authoritarian effects among liberals continues to hold even among these voters suggesting that it is unlikely cues from the right is what is driving these liberals into conservative positions. The interaction plots are similar in each case to those reported in the manuscript although the confidence intervals overlap in panel 3 given the extremely small number of Corbyn voters (n=382).
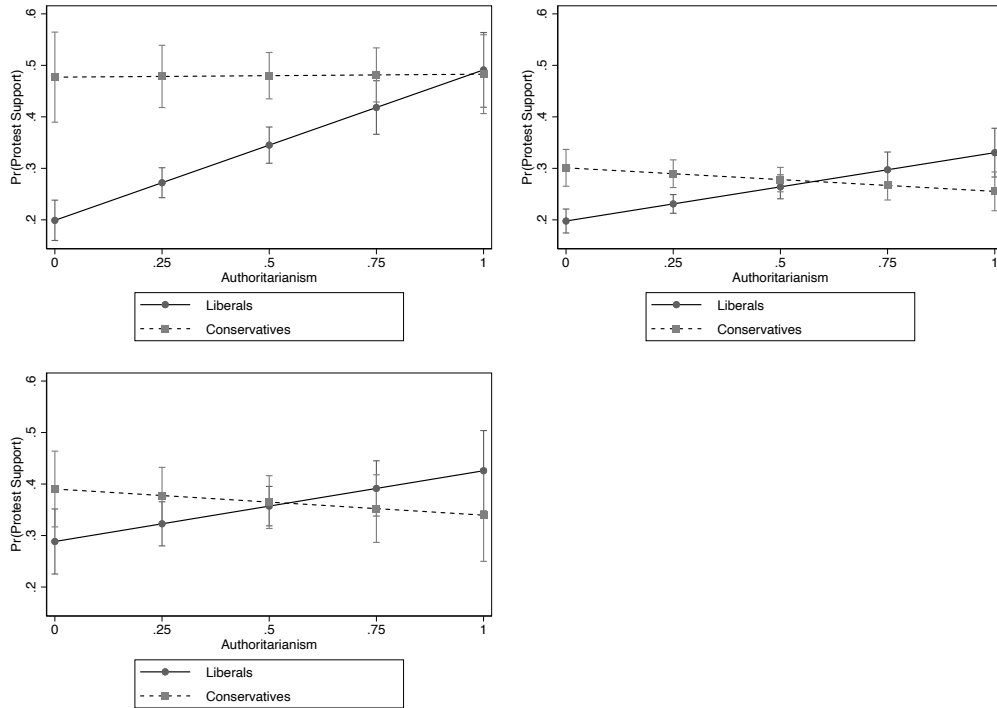
Figure A4: Conditional effect of ideology on support for protest and protest activity among

Biden (panel 1), opposed Brexit (panel 2) voters, and Corbyn voters (panel 3)

Western States Estimates

Table A3 provides probit regression estimates reported in panel 2 of Figures 1 (Protest Involvement model) and Figure 2 (Masking, Distancing, and Quarantine models) in the manuscript.

Table A3: Estimates of COVID-19 Protest Involvement and Mitigation Efforts

	Protest	Masking	Distancing	Quarantine
Authoritarianism	0.52*	-0.43*	-0.28*	-0.14
	(0.25)	(0.17)	(0.14)	(0.12)
Trust in scientists	-0.22	0.49*	0.58*	0.36*
	(0.16)	(0.12)	(0.10)	(0.09)

50

	Protest	Masking	Distancing	Quarantine
Social media use	0.10	0.03	-0.03	0.02
	(0.18)	(0.13)	(0.11)	(0.08)
Partisanship	0.77*	-0.23	-0.27	-0.12
	(0.31)	(0.20)	(0.17)	(0.12)
Ideology	0.03	-0.11	-0.39*	-0.49*
	(0.31)	(0.21)	(0.18)	(0.13)
Education	0.56*	0.53*	0.50*	0.23
	(0.25)	(0.19)	(0.16)	(0.12)
Age	-0.01*	0.02*	0.02*	-0.01*
	(0.00)	(0.00)	(0.00)	(0.00)
Gender	-0.06	0.17	-0.00	0.17*
	(0.15)	(0.11)	(0.09)	(0.07)
Born again	-0.30	0.18	0.31*	0.01
	(0.18)	(0.14)	(0.11)	(0.10)
Church attendance	0.08	-0.09*	0.03	0.01
	(0.05)	(0.04)	(0.03)	(0.02)
Religion	-0.19	0.50*	-0.07	-0.15
	(0.18)	(0.13)	(0.11)	(0.08)
Urban	-0.03	0.22	0.08	0.06
	(0.17)	(0.11)	(0.10)	(0.08)
Constant	-1.90*	-0.29	-0.62	-0.02
	(0.49)	(0.38)	(0.33)	(0.26)
N	1,676	1,676	1,676	1,676

Data from Western States Survey. Coefficients are probit estimates with state fixed effects (not shown). Data are weighted. * $p < 0.05$.

Estimates of authoritarianism and political ideology

Table A4 show probit regression estimates for the interaction of authoritarianism and political ideology in the Western States Survey. These estimates are used to estimate the reported marginal effects (manuscript text) and the conditional effects in Figure 4 in the manuscript.

Table A4: Interaction Estimates of COVID-19 Protest Involvement and Mitigation Efforts

	Protest	**Masking**	**Distancing**	**Quarantine**
Authoritarianism	2.29*	-1.26*	-0.77*	-0.34
	(0.48)	(0.29)	(0.24)	(0.21)
Ideology	1.39*	-0.64*	-0.86*	-0.51*
	(0.46)	(0.29)	(0.26)	(0.20)
Authoritarianism * Ideology	-2.31*	1.24*	0.85*	0.52

	(0.56)	(0.37)	(0.30)	(0.28)
Trust in scientists	-0.29	0.43*	0.61*	0.43*
	(0.17)	(0.14)	(0.12)	(0.11)
Social media use	-0.03	0.13	0.04	0.05
	(0.20)	(0.15)	(0.12)	(0.10)
Partisanship	0.10	-0.05	-0.02	-0.06*
	(0.07)	(0.05)	(0.04)	(0.03)
Education	0.38	0.74*	0.56*	0.25
	(0.29)	(0.22)	(0.19)	(0.15)
Age	-0.01*	0.02*	0.02*	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Gender	-0.07	0.26*	-0.04	0.20*
	(0.17)	(0.12)	(0.10)	(0.08)
Born again	-0.11	0.36*	0.37*	0.11
	(0.19)	(0.16)	(0.13)	(0.11)
Church attendance	0.05	-0.04	0.04	0.03
	(0.05)	(0.04)	(0.04)	(0.03)
Religion	-0.14	0.65*	-0.01	-0.17
	(0.21)	(0.16)	(0.13)	(0.10)
Urban	-0.04	0.15	0.05	0.05
	(0.18)	(0.13)	(0.11)	(0.09)
Constant	-2.88*	-0.46	-0.81*	-0.26
	(0.63)	(0.45)	(0.38)	(0.31)
N	1,218	1,218	1,218	1,218

Data from Western States Survey. Coefficients are probit estimates with state fixed effects (not shown). Data are weighted. * $p < 0.05$.

Right-wing media use

Figure A5 shows the estimates from a logistic regression that includes an interaction between right-wing media use and authoritarianism. None of the interactions are statistically significant suggesting respondent's information sources are not responsible for left-wing authoritarians shifting into conservative behaviors.

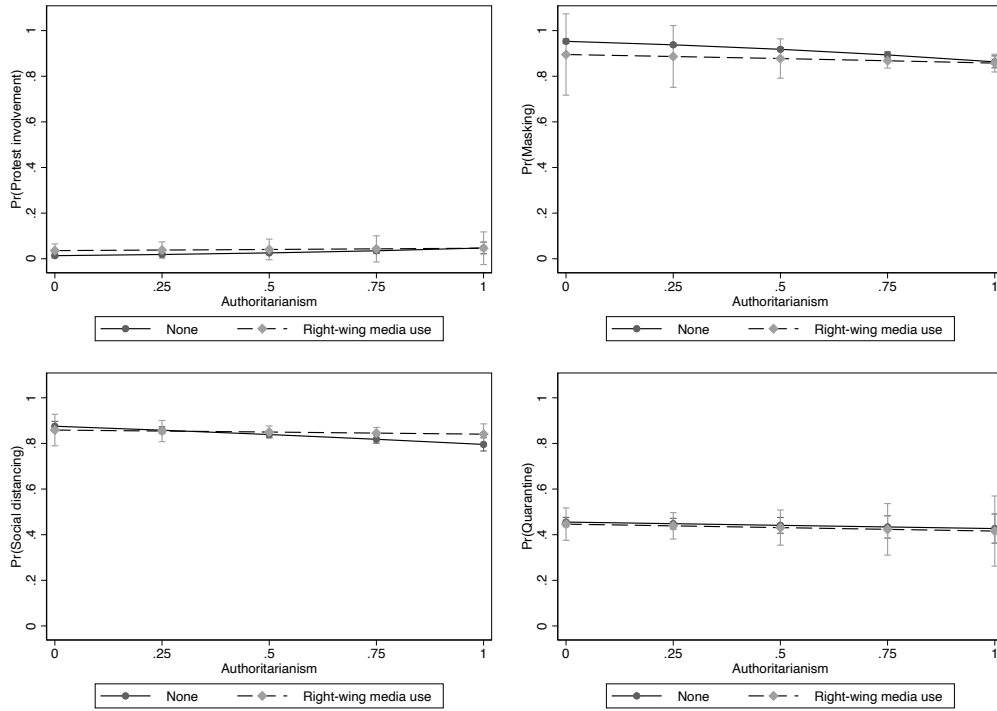**Figure A5: Conditional effects of authoritarianism and right-wing media use on COVID-19 related behaviors**

Full Sample Results

Here we report the full sample results including members of all racial and ethnic groups. Figure A6 shows authoritarianism correlates with greater support (US and UK) and involvement (WSS) in protest activity. This is consistent with the results for the white only sample reported in the paper.
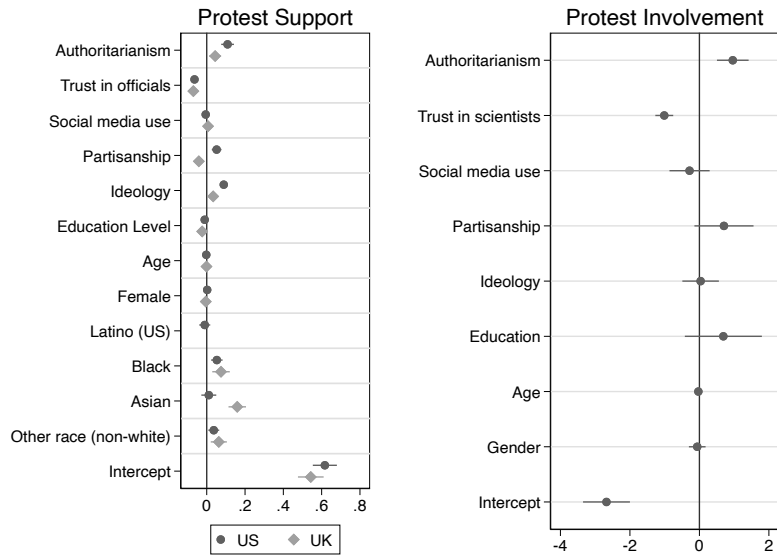
Figure A6: Full sample estimates of support for protest activity

Figure A7 shows the full sample estimates of authoritarianism on mandated COVID-19 mitigation behaviors. Authoritarianism correlates with disobeying public health and government recommendations in each case with the quarantine model estimates showing statistically significance in the full sample relative to near significance in the white only sample reported in the paper. This difference is likely due to the greater statistical power afforded by the increase in sample size.
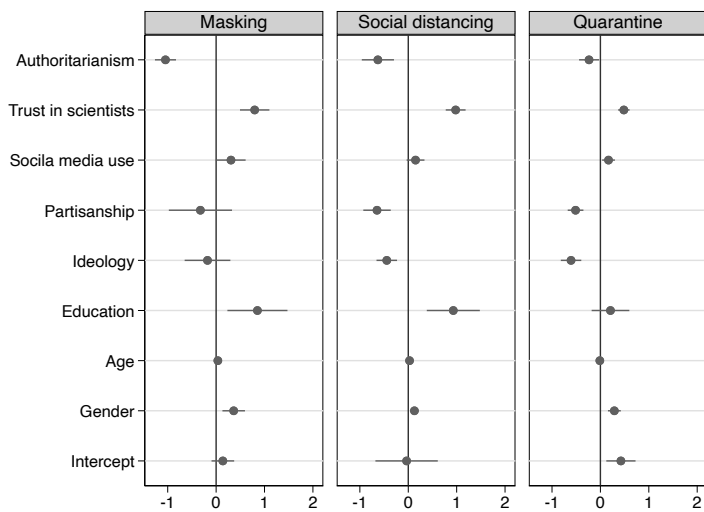
Figure A7: Full sample estimates of support for mitigation behaviors (WSS)

Figure A8 and A9 show the full sample interaction effects of ideology and authoritarianism on protest support (US and UK), protest involvement (WSS), and mitigation behaviors (WSS). These findings all mirror those reported in the manuscript.
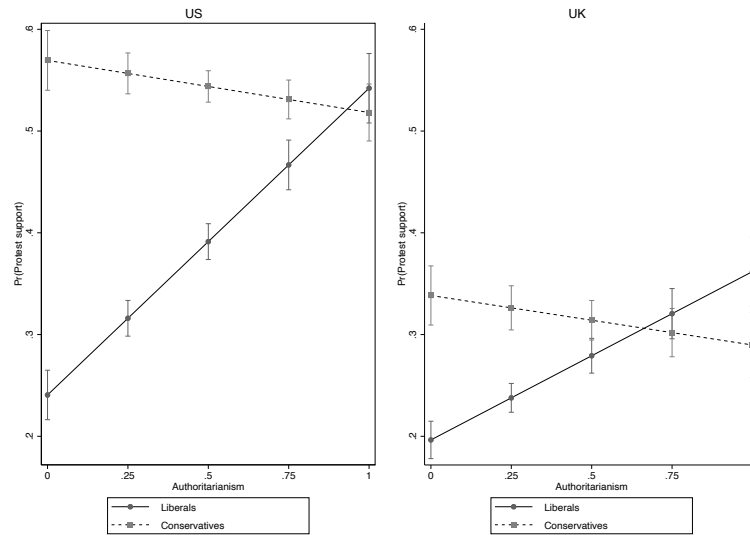
Figure A8: Conditioning effect estimates of ideology and authoritarianism on protest group support (US and UK full samples)
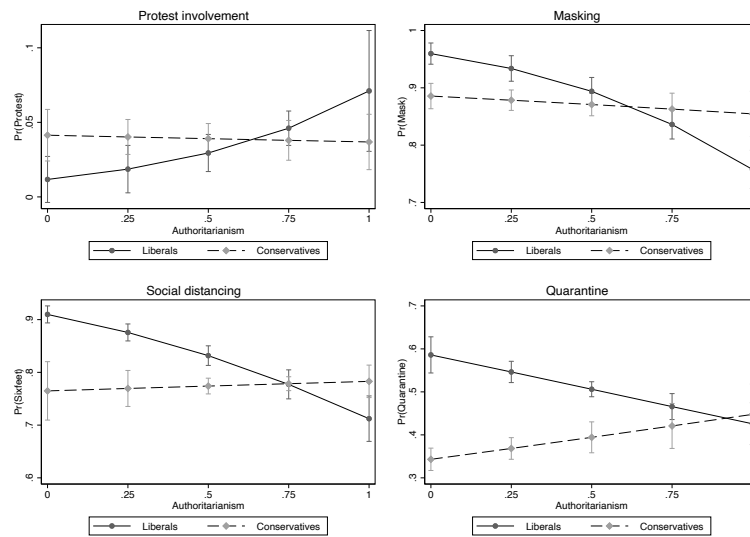
Figure A9: Conditioning effect estimates of ideology and authoritarianism on mitigation behaviors (WSS full sample)

Estimation of protest support (authoritarianism and COVID-19 threat)

Lacking indicators for how threatening respondents perceive COVID-19 and mitigation efforts, we interact authoritarianism with a variable indicating whether respondents perceive COVID-19 or vaccines to be more harmful (see *COVID harmful* on page 2 of the Online Appendix). The full results are shown in Table A5 with Figure A10 showing the interaction effect between the COVID harmful variable and authoritarianism.

Table A5: Estimating protest support index

	Estimate
Authoritarianism	0.10*
	(0.02)
COVID-19 harmful	0.11*
	(0.01)
Authoritarianism * COVID-19 harmful	-0.06*
	(0.02)
Ideology	0.05*
	(0.01)
Trust in officials	-0.06*
	(0.01)
Social media use	-0.00
	(0.00)
Partisanship	0.00
	(0.01)

Education	-0.01*
	(0.00)
Age	-0.00*
	(0.00)
Gender	-0.01
	(0.01)
Religion	0.03*
	(0.01)
Urban	0.01
	(0.01)
US or UK	0.11*
	(0.01)
Constant	0.46*
	(0.03)
N	3,134

Data are pooled from US and UK YouGov studies. Coefficients
are OLS estimates with standard errors in parentheses. Data are
weighted. *$p < 0.05$.

The interaction shows that authoritarianism has no effect on protest support among
those more concerned about COVID-19 than the vaccine. This is consistent with our argument
that realistic threat is less motivating for authoritarians. However, authoritarianism shows a
positive correlation with protest support among those more concerned with the vaccine than
COVID-19. We view the vaccine as part of symbolic mitigation efforts fitting the argument that
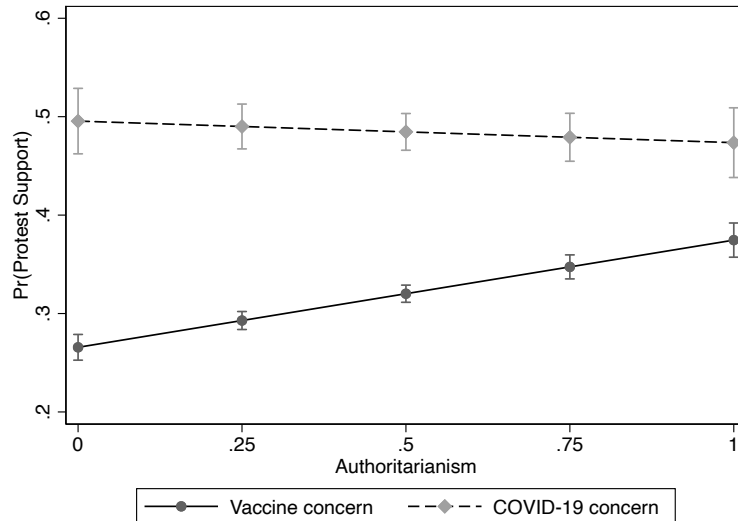such concerns are what drove authoritarians to support protests against authority figures.

**Figure A10: Protest support among concern for the vaccine versus COVID-19 across
authoritarianism**

Estimation of liberal authoritarians

Table A6 uses the US and UK surveys to estimate a binary indicator for liberal authoritarians (coded as 1) and either non-liberals (moderates and conservatives coded as 0) or non-authoritarian liberal (coded as 0).

Liberal authoritarians are more male, younger, and have more trust in public health officials than non-liberals. Liberal authoritarians are more male, younger, less educated, and more likely to identify as religious than non-authoritarian liberals.

Table A6: US/UK Estimates of Liberal Authoritarians (Demographics)

	Non-liberals	Non-authoritarian liberals
Gender	-0.17*	-0.41*
	(0.08)	(0.11)
Age	-0.01*	-0.01*
	(0.00)	(0.00)
Education	-0.06	-0.36*
	(0.04)	(0.06)
Religion	0.13	0.72*
	(0.09)	(0.11)
Social media use	-0.04	-0.04
	(0.03)	(0.05)
Trust in officials	0.14*	-0.14
	(0.05)	(0.08)
Country fixed-effects	-0.12	-0.26*
	(0.09)	(0.12)
Constant	-1.11*	0.67
	(0.26)	(0.36)
N	2,702	1,018

Data pooled from US and UK YouGov surveys. Coefficients are probit estimates
with standard errors in parentheses. Outcome is whether the respondent is a
liberal authoritarian relative to the full sample of non-liberals (model 1) or
relative to non-authoritarian liberals (model 2). Data are weighted. $^*p < 0.05$.

Table A7 reports a similar set of estimates using the WSS. Liberal authoritarians are less educated and less likely to attend church than non-liberals. They are also less educated and have greater church attendance than non-authoritarian liberals. The results from Tables A6 and A7 are not entirely consistent, but we might conclude that *demographically* liberal authoritarians resemble people that we typically associated with conservatism---more male, less educated, and moderately religious (not as much as non-liberals, but more so than liberals).

Table A7: WSS Estimates of Liberal Authoritarians (Demographics)

	Non-liberals	Non-authoritarian liberals
Gender	-0.04	-0.14
	(0.12)	(0.14)
Age	-0.00	0.01
	(0.01)	(0.01)
Education	-0.41*	-1.31*
	(0.12)	(0.15)
Urban	0.12	-0.06
	(0.09)	(0.06)
Church attendance	-0.07*	0.12*
	(0.03)	(0.05)
Protestant	-0.09	-0.04
	(0.13)	(0.11)
Catholic	0.09	0.04
	(0.13)	(0.11)
Social media use	0.00	-0.03
	(0.07)	(0.14)
Constant	-1.32*	-0.86*
	(0.31)	(0.39)
N	1,377	576

Data from Western States Survey. $^* p < 0.05$. Coefficients are probit estimates
with state fixed effects. Outcome is whether the respondent is a liberal authoritarian
relative to the full sample of non-liberals (model 1) or non-authoritarian liberals
(model 2).

The WSS also contained items measuring policy preferences. Measures of policy preferences are unavailable in the US and UK surveys. Table A8 reports probit estimates that include these policy variables in the WSS. Liberal authoritarians show greater support for a federal minimum wage than non-liberals (moderates and conservatives). Note, the minimum wage question was only asked to a random 786 respondents reducing the sample size of these models. Liberal authoritarians are more concerned about jobs and the economy (rated as a most important problem) than non-authoritarian liberals, are more supportive of conceal carry gun

laws (a more conservative position) than non-authoritarian liberals, and are less educated than liberal non-authoritarians.

Table A8: WSS Estimates of Liberal Authoritarians (Policy)

	Non-liberals	Non-authoritarian liberals
Most important problem		
Jobs and the economy	0.43	0.96*
	(0.42)	(0.24)
Housing	-0.54	-0.41
	(0.47)	(0.38)
Trade	0.99	0.00
	(0.84)	(.)
Health care	0.42	0.54
	(0.27)	(0.43)
Coronavirus	0.16	0.25
	(0.14)	(0.25)
Other	0.24	0.21
	(0.65)	(0.54)
Policy preferences		
Minimum wage	0.46*	-0.02
	(0.14)	(0.14)
Immigration	0.17	0.03
	(0.12)	(0.21)
Conceal carry	-0.15	0.09*
	(0.09)	(0.04)
Gender	-0.11	-0.25
	(0.19)	(0.21)
Age	0.00	0.02
	(0.01)	(0.01)
Education	-0.26	-1.15*
	(0.35)	(0.33)
Urban	-0.00	-0.05
	(0.24)	(0.08)
Church attendance	-0.01	0.17
	(0.07)	(0.12)
Protestant	-0.01	0.01
	(0.20)	(0.10)
Catholic	0.01	-0.03
	(0.20)	(0.10)
Social media use	0.19	0.13
	(0.13)	(0.24)
Constant	-3.37*	-1.77
	(0.94)	(0.97)

_N_	485	219	

Data from Western States Survey. Coefficients are probit estimates with state fixed effects (not shown). Outcome is whether the respondent is a liberal authoritarian relative to the full sample of non-liberals (model 1) or non-authoritarian liberals within the sample (model 2). Data are weighted. $^*p < 0.05$.

Religious identification/denomination and authoritarianism

Table A9 shows a regression of authoritarianism on the religious identification variable in order to learn what religion or religious denominations correlate with authoritarianism. We then coded denominations statistically significant as 1 in the religion variable and all other denominations as 0.

Table A9: Regression Estimates of Authoritarianism and Religion

	UK sample	US sample	WSS
Church of England	0.13* (0.02)		
Catholic	0.13* (0.03)	0.22* (0.02)	-0.03 (0.02)
Church of Scotland	0.12* (0.04)		
Methodist	0.09 (0.05)		
Protestant/Baptists	0.23* (0.07)	0.20* (0.02)	
United Reform Church	-0.08 (0.12)		
Free Presbyterian	0.55* (0.19)		
Brethern	-0.11 (0.23)		
Judaism	0.00 (0.08)	0.14* (0.04)	-0.16* (0.05)
Hinduism	0.29* (0.14)		-0.26 (0.22)
Islam	-0.11 (0.10)	0.14* (0.07)	-0.04 (0.10)
Sikhism	-0.00 (0.05)		
Prefer not to say	-0.01 (0.05)	0.00 (0.00)	-0.08* (0.03)
Orthodox Christian	0.12 (0.08)		-0.05 (0.13)
Pentecostal	0.12 (0.10)		
Evangelical	0.04 (0.08)		
Mormon			-0.14* (0.03)
Constant	0.36* (0.01)	0.29* (0.01)	0.51* (0.01)
_N_	2,182	1,449	1,892

Coefficients are regression estimates with standard errors in parentheses. No control variables were included.
$^*p < 0.05$