Research Article

Politics, preparedness, or resources
Examining state responsiveness to the COVID-19 pandemic

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Abstract. **U.S. states are often the primary decision makers during a public health crisis. The COVID-19 pandemic led to several different reopening processes across states based on their unique characteristics. We analyze whether states' reopening policy decisions were driven by their public health preparedness, resources, COVID-19 impact, or state politics and political culture. To do so, we summarized state characteristics and compared them across three categories of reopening scores in a bivariate analysis using the chi-square or Fisher exact test for the categorical variables and a one-way analysis of variance (ANOVA) for the continuous variables. A cumulative logit model was used to assess the primary research question. A significant factor in a state's reopening decision was the party of the governor, regardless of the party in control of the legislature, state political culture, public health preparedness, cumulative number of deaths per 100,000, and Opportunity Index score.**

Key words: COVID-19, reopening policy, U.S. states, state decision-making

On January 28, 2020, the World Health Organization announced the outbreak of a global pandemic (Wee et al., 2020). Shortly thereafter, infectious disease scientists sounded the alarm, warning government officials of the lethality of COVID-19 and the need to impose strict public health mitigation measures in an effort to control the spread of the virus across the United States (Kaiser, 2020). In April 2020, directives from 42 governors across the United States invoked their police powers to shutter businesses, close schools and universities, and impose stay-in-place orders as governors declared a public health emergency due to the pandemic. Other state governors imposed partial stay-at-home orders or held off social distancing measures altogether. Collectively, these stay-at-home orders left 316 million people in 42 states under lockdown (Mervosh et al., 2020). As the lockdowns continued, political backlash against state houses began to swell as concerns over the economy escalated. State governors were under pressure to formulate and implement plans to gradually relax restrictions in an effort to revive their economies.

Police powers regarding public health are under the purview of state governors. Historically, states have exercised their police powers to impose quarantine laws and vaccine mandates in response to threats from lethal pathogens within their borders. Most relevant to the COVID-19 pandemic and its contagious and lethal nature are the smallpox and Spanish flu epidemics. During the smallpox outbreak of 1905, Massachusetts passed a law that authorized cities to mandate smallpox vaccinations for all residents. While the constitutionality of the law was challenged and appealed to the U.S. Supreme Court (see *Jacobson v. Massachusetts*, 1905), a majority of the court upheld the state's right to enforce smallpox vaccinations. Among the court's assertions, it concluded, "The liberty secured by the Constitution of the United States to every person within its jurisdiction does not import an absolute right in each person to be, at all times and in all circumstances,

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wholly freed from restraint" (*Jacobson v. Massachusetts*, 1905, p. 26).

A decade later, during the 1918 influenza pandemic, states exercised their police powers by imposing quarantines and social distancing measures (Stern et al., 2010). The literature is rife with studies examining state health officials' responses during the 1918 flu (Aimone, 2010; Bootsma & Ferguson, 2007; National Institutes of Health, 2007). Similar to the COVID-19 pandemic, states' public health responses during the 1918 flu varied across states and cities; this resulted in different outcomes (e.g., death rates), leaving some states faring better than others. Collectively, these studies reveal that the timing of state public health officials' actions at the onset of the pandemic and the interventions deployed were critical to "flattening the curve" and saved lives during the 1918 flu (Aimone, 2010; Bootsma & Ferguson, 2007; Markel et al., 2007).

Hatchett et al.'s (2007) study of nonpharmaceutical interventions during the 1918 pandemic across 17 U.S. cities found that cities that used multiple interventions (e.g., shuttering schools and businesses, banning large gatherings) in the early stages of the pandemic had lower peak death rates. Moreover, the study notes the striking difference between response times and death rates in St. Louis and Philadelphia during the period from September 8 to December 28, 1918: whereas St. Louis experienced 347 per 100,000 deaths, Philadelphia experienced 719 per 100,000 deaths during the same period (Hatchett et al., 2007). The significance of these findings demonstrates the importance of state officials understanding the implications of state public health decision-making approaches to combating the spread of a pandemic without the availability of a vaccine.

Remarkably, over 100 years after the 1918 pandemic, state governors in the twenty-first century faced the same public health challenges during the COVID-19 pandemic: the lack of a cohesive and robust federal plan, resource scarcity (e.g., personal protective equipment), and the lack of immediately available vaccines. Consequently, state health officials were left with a limited number of public health policy interventions (i.e., isolation measures, masking, and social distancing) to deploy. Moreover, states' constitutional police powers provide each state's public health officials with the authority to impose and enforce policies they deemed appropriate for their individual jurisdiction (Galva et al., 2005). This led to a patchwork of state responses with regard to reopening and the types of mitigation strategies implemented within state borders (Adolph et al., 2020; Calfas, 2020; Curley & Federman, 2020; Kaufman et al., 2020; Moreland, 2020).

Variation in state policy is not uncommon and exists in many policy areas, including education, environmental regulations, and welfare reform (Fuscaro, 2021; Koski, 2007; McDermott, 2003; Owings et al., 2017; Weaver & Gais, 2002). COVID-19 exacerbated variation among states, for two primary reasons. The first is the novel nature of the virus, which created an atmosphere of uncertainty because of a lack of scientifically sound policy options (Berger et al., 2020). Second, the federal government gave states the freedom to decide which policies to implement to combat COVID-19, and states took different approaches to protecting their citizens and economies.

During a public health crisis, state and local governments traditionally take the lead within their jurisdictions, while the federal government focuses on public health responses aimed at preventing the spread of disease across the country and internationally (Donnelly & Farina, 2021; Haffajee & Mello, 2020). Because of the highly transmissible nature of COVID-19 and the threat that it posed to the U.S. population, infrastructure, and economy, the federal government's response was critical (Haffajee & Mello, 2020). To that end, the federal government directed resources to implement a national vaccination COVID-19 program for emergency use (Centers for Disease Control and Prevention [CDC], 2021).

As state COVID-19 decision-making turns into vaccine debates, it is important to reflect upon and better understand the decision-making factors that influenced states' COVID-19 mitigation measures at the beginning of the pandemic and the implications of these measures. As previously noted, early mitigation strategies by state and local governments are critical to controlling the spread of a pandemic (Aimone, 2010; Bootsma & Ferguson, 2007; Hatchett et al., 2007). Given the threat of another pandemic in the foreseeable future, understanding the factors that influenced states' decision-making at the beginning of the pandemic will allow public administrators and policymakers to evaluate policy decisions and their outcomes and, in turn, make policy adjustments for future public health crises.

An area of research that has dominated the COVID-19 literature is analysis of the impact of partisanship on state responses. Studies have investigated the emphasis that Democratic governors placed on health and safety compared with the Republican emphasis on the economic impact of stay-at-home policy measures (Baccini & Brodeur, 2021; Kempler, 2021). Other studies have

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focused on how decisions were made, determining that Democrats turned to public health experts for guidance based on the impact of COVID-19 on their states, while many Republican governors followed guidelines released by the Donald Trump administration (Fowler et al., 2021; Gusmano et al., 2020). Additional studies have compared the stringency of policy enforcement of Democratic and Republic governors, finding that Democrats were typically stricter in their implementation of COVID-19 mitigation measures, which led to better health outcomes in many instances (Kempler, 2021).

This study aims to take the existing state COVID-19 variation discussion beyond partisanship to identify whether partisanship is mitigated by other characteristics. Taking a nuanced approach to state partisanship and state decision-making, this research examines whether states utilized their resources and relied on their public health preparedness or instead defaulted to their state politics and political culture when deciding between policy alternatives to combat COVID-19. This avenue of study is unique because it assesses socioeconomic and political variables to better understand whether states will choose to pursue public health options that use their existing resources to improve their well-being, or default to political traditions and culture embedded in the fabric of their state identity. Will states ignore the resources at their disposal to respond to COVID-19 or remain within party lines? The following section unpacks the literature on state distinctiveness and resources and their impact on public health policy decision-making during the COVID-19 pandemic.

State distinctiveness

The 2019 Global Health Security Index ranked the United States first in the categories of prevention of the emergence of release of pathogens and early detection and reporting for epidemics of potential international concern, and second behind the United Kingdom in rapid response to and mitigation of the spread of an epidemic (Cameron et al., 2019). Despite the ranking for the United States as a whole, significant variation in public health preparedness can be seen among states. Typically, as states face public health crises, such as the COVID-19 pandemic, their recognition of the severity of the public health issue is reflected in their responses. States committed to fighting a public health crisis will ensure that resources and support are available so that the appropriate agencies can coordinate public health interventions and create health policy changes designed to ensure the health of state residents (Frieden, 2014). The different approaches to public health are evident in the variation in state public health spending. In fiscal year (FY) 2011–2012, average per capita public health spending was $154.99 in Hawaii and $3.28 in Nevada, with a median of $27.40 (Levi et al., 2013). Variation in key response mechanisms, such as available personnel and resources, also indicates states are disproportionately prepared to face a public health crisis (Trust for American's Heath, 2020). This is significant because without commitments from state governments to fund, track, improve, and staff public health programs, it is difficult to combat public health concerns (Frieden, 2014).

Another area of variation among states is overall well-being. A state's general well-being could impact its ability to respond to an unprecedented public health crisis based on the overall strength of its education, health, economic, and community programs prior to the COVID-19 pandemic. Opportunity Index scores are all-encompassing and include the general well-being of a state. These scores are useful because they allow the evaluation of whether states with higher Opportunity Index rankings faced less pressure to reopen early than those with lower Opportunity Index rankings, given that they started off with stronger economies, education systems, access to health for their residents, and community support. For example, in February 2020, the state of Minnesota had predicted a significant budget surplus and had been discussing tax cuts. Instead, the additional funds were used to ensure that resources were available to combat COVID-19 (Lays, 2020).

Examining the role of state well-being in state decision-making is important because COVID-19 is atypical in its enormity and the widespread hardships it caused. An unprecedented 50 states were under a major disaster declaration for the first time in American history amid the COVID-19 crisis (Coleman, 2020). Moreover, COVID-19 resulted in many negative implications for individuals attempting to navigate social distancing orders, including working from home, reduced access to daycare and schooling, record unemployment rates in many states, and health concerns exacerbated by a health care system that was difficult to access and afford before the pandemic reached the United States (Thompson, 2020).

In March 2020, all 50 states took steps to close schools and childcare centers, and many colleges and universities transitioned to remote learning, affecting nearly 21 million children in daycare, 57 million students in kindergarten through grade 12, and 20 million college and university students (Donohue & Miller, 2020).

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Additionally, in July 2020, 39 states reported net job losses that exceeded rates during the Great Depression. The other 11 states also experienced a substantial number of job losses, though they did not reach historic levels. The job losses were indiscriminate and occurred across industries and states (Ettlinger & Hensley, 2020). Unemployment rates may not represent the full extent of economic suffering, however, as they do not account for furloughs or reduced working hours, salaries, or benefits (Sonfield et al., 2020).

Job loss can also lead to problems accessing health care, as 160 million people in the United States have employee-sponsored insurance (Sonfield et al., 2020). For those who get sick, the financial implications could match the health implications. In 2017, the cost to treat respiratory infections and inflammations for individuals with significant comorbidities was $13,297. This cost increased to $40,218 for severe hospitalizations that included support from a ventilator for more than 96 hours (Levitt et al., 2020). For those living in one of 14 states that did not expand Medicaid, the costs may have been even higher, as private insurer payments are almost double Medicaid payments for the same diagnoses (Levitt et al., 2020; Sonfield et al., 2020).

The contagious and lethal nature of COVID-19 resulted in unprecedented mortality rates. In March 2020, reported cases increased from over 2,000 on March 13 to 161,000 cases by March 20 (Jung et al., 2021). By April 4, 2020, the United States reported over 600,000 cases, and by May 15, 2020, 1.5 million individuals had been diagnosed with COVID-19. Of those cases, 198,000 were hospitalized and 83,000 died (Friedson et al., 2020; Jung et al., 2021). Historically in the United States, state public health priorities vary, but the COVID-19 pandemic provided a unique public health crisis that impacted all 50 states by increasing the risk of illness, hospitalization, and mortality (Gordon et al., 2020; Institute of Medicine, 1988). Despite the contagious nature of COVID-19 and the public health threat posed across the nation, the federalist structure of the U.S. public health system, coupled with a lack of federal guidance, led states' public health departments to implement different approaches to combat increasing COVID-19 cases, hospitalizations, and deaths (Gordon et al., 2020). This resulted in over 2,000 different COVID-19 responses by state, local, and tribal public health departments as a means to decrease COVID-19 cases and mortality rates (Gordon et al., 2020).

Although it seems logical that states with strong public health preparedness and available state resources may have more flexibility in relaxing their reopening policies, politics and political culture are entrenched in every policy decision, COVID-19 related or not. Governors and state legislatures are key actors in the policy decisions that are made to combat the spread of a public health crisis. As the chief administrators of the bureaucracy in their state, governors are ultimately responsible for emergency planning and response (Hanfling et al., 2012; Koski, 2007). Additionally, governors have the ability to veto policies that do not align with their politics and have direct control over the way that policies are designed, which underscores their influence (Dickes & Crouch, 2015).

State legislators play a significant role in passing emergency measures, requesting help from the federal government, pushing through budget-related bills, and moving primary election dates when needed (Lays, 2020). Moreover, state legislators have considerable policymaking power, especially when they hold a majority of the power. When one political party controls both houses of the legislature, it also commands policy agenda setting and the way that policies are implemented (Cox et al., 2010). In states where the gubernatorial power of one party conflicts with the legislative majority of a different party, however, tensions can flare. Concerns over governors overstepping their authority in Michigan and Wisconsin led to legislators successfully suing to challenge the emergency powers of the state executive. In Minnesota, Republicans were angered by the multiple peacetime emergency powers extensions that Democratic governor Tim Walz granted and effectively fired two state commissioners by refusing to confirm them as a response (Greenblatt, 2021).

Beyond politics, states have an engrained political culture that subconsciously guides their policy decisions. Political culture has important implications for decisions regarding government spending and authority, individual freedoms, and tolerance (Koven & Mausolff, 2002). The construct of political culture is broadly conceptualized as shared values and attitudes toward the role of government and what it ought to do within a political system (Almond & Verba, 1980, Elazar, 1972; Wildavsky, 1985). Elazar's (1972) typology identifies three broad categories of political culture across the United States: moralistic, individualistic, and traditionalistic.

In moralistic cultures, political behavior is rooted in the belief that "good" government serves the interests of society at large (Elazar, 1972; Koven & Mausolff, 2002). In this regard, states that have a moralistic political

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culture are likely to view public health interventions as a necessary government mechanism to protect the safety and health of their communities. As a result, we would expect these states to implement stringent public health mitigation measures, which would include a slower, measured approach to reopening their state.

On the other hand, individualistic cultures perceive the political system as a marketplace in which individual interests seek to use government to advance their own particular issues. This cultural perspective believes in limited government interventions and restricts government activities to those that the public demands (Fisher, 2016). Based on these political culture characteristics, states with a predominantly individualistic culture would likely follow a laissez-faire public health approach to public health government interventions. Consequently, these states would likely implement less stringent public health measures in an effort to mitigate governmental constraints on the marketplace.

Lastly, in traditionalistic cultures the political system is dominated by elites. Consequently, the privileged and the powerful seek to use government as a tool to maintain the status quo, and in turn, keep their power. In this sense, the notion of a Democratic system and the means to advance the "common good" is primarily left to small groups of wealthy political actors (Chamberlain, 2013). Given that Elazar (1972) places the power of "elites" as central to traditionalistic cultures, the level of severity of public health interventions regarding COVID-19 and state reopening policies in these states would likely depend on the policy preferences of a small group of wealthy political actors. Consequently, public health measures regarding state reopenings would be left in the hands of a minority of powerful political actors.

Methods

Main outcome measure

To further explore why states made their reopening policy decisions, we posed the following research question: During the early phases of the COVID-19 public health emergency, were states' policy decisions to reopen driven by the health impacts of COVID-19, their public health preparedness and resources, or state politics and political culture?

To address this question, we began by scoring all 50 states based on their reopening decisions, assigning states as lenient, moderate, or stringent. Using the Kaiser Family Foundation's State Data and Policy Actions to Address Coronavirus website, we coded seven state social distancing policy actions (Levitt et al., 2020). The seven policy decisions analyzed were stay-at-home orders, mandatory quarantine for travelers, nonessential business closures, large-gathering bans, school closures, restaurant limits, and primary election postponement.

For each policy area, states were given a score of 0 if the state took no action; the score increased based on the stringency of the policy action and the number of actions available. For example, in terms of state implementation of stay-at-home orders, states could take one of four policy actions: no action (score of 0), enact and then lift the stay-at-home order (score of 1), roll back stay-at-home orders to high-risk groups (score of 2), or sustain a statewide stay-at-home mandate (score of 3). The state reopening scores were divided into three groups to create an ordinal response variable, using the PROC RANK procedure in SAS. A state was designated as *lenient* if the reopening score was between 4 and 11, moderate if the score was between 12 and 15, and stringent if the score is from 16 to 23, as shown in Figure 1.

States' reopening policy actions changed regularly between March 2020 and July 2020 as they navigated unprecedented public health decisions. On April 20, 2020, the Centers for Disease Control and Prevention (CDC) released its "Opening Up American Again" guidelines, which provided gating criteria for individuals and employers. For individuals, phase one proposed that vulnerable individuals continue to shelter in place. For all others, the CDC recommended continuing social distancing measures, avoiding gatherings of groups of more than 10 people, and minimizing nonessential travel. Phase two continued the shelter-in-place guidelines for vulnerable individuals. For individuals without underlying medical issues, phase two continued social distancing measures, urged individuals to avoid sitting with more than 50 people unless health measures could be taken (i.e., mask wearing), and resumed nonessential travel. In phase three, all restrictions on nonvulnerable individuals were removed, and restrictions for vulnerable individuals were relaxed (CDC, 2020).

To ensure consistency, our study focuses on policy actions taken on June 17, 2020. On this date, Connecticut became the last state to transition from phase one to phase two, although states ultimately reinstated some phase one restrictions later in the summer (*Washington Post*, 2020). Phase two was selected because it led to an increase in social interaction. Based on federal guidelines, individuals were able to congregate in groups of 50 or

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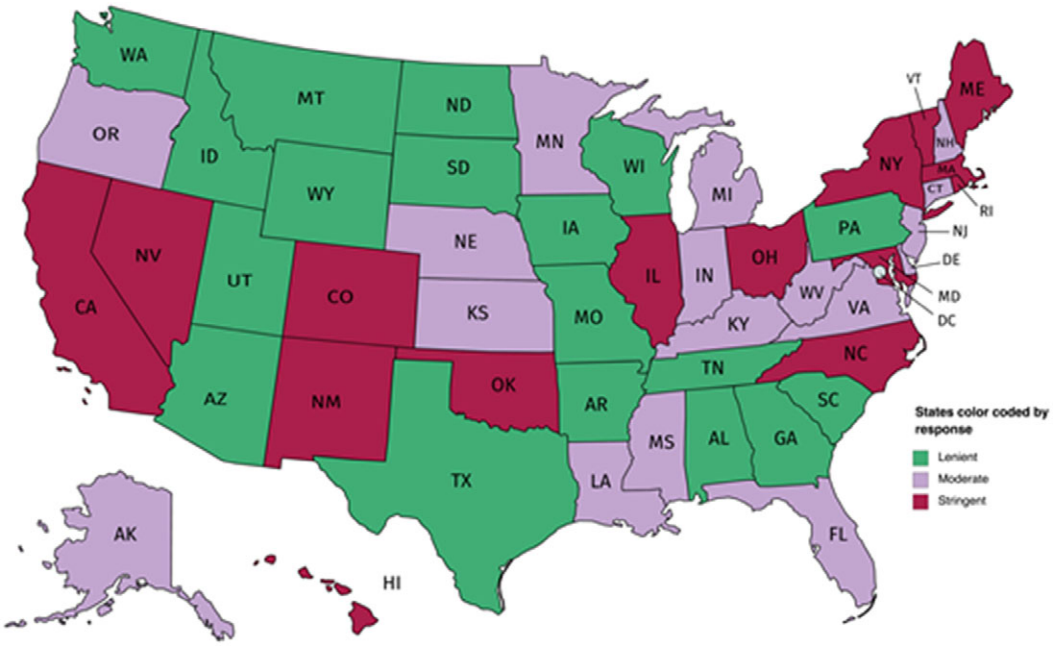

Figure 1. Map of states color-coded by reopening policy strength.

fewer people, nonessential travel resumed, schools and daycares could reopen, elective surgeries resumed, and bars could reopen with reduced capacity (CDC, 2020; White House & CDC, 2020). Selecting this date provided a good representation of variation in state reopening policy decisions.

Once the reopening scores were calculated, the correlations of six state characteristics were studied to examine state characteristics that reflect reopening decision-making. The six independent variables selected were the party of the governor, the party in control of the legislature, state political culture, the state's Opportunity Index score, state COVID-19-related mortality rates, and the state's public health emergency preparedness score.

Variables representing state distinctiveness

State politics. Party affiliations for state legislatures and governors were taken from the National Conference of State Legislatures Post Election 2019 State and Legislative Partisan Composition Report from November 22, 2019, and coded based on political party (NCSL, 2019). No party affiliation was coded as 0, Republican was coded as 1, Democrat was coded as 2, and divided political party was coded as 3. Party affiliation was then compared with state reopening scores.

Political culture. Using Elazar's (1972) categories, states were identified as individualistic, moralistic, or traditionalistic. Individualistic states were coded as 1, moralistic states as 2, and traditionalistic states as 3 to examine the relationship between state political culture and their reopening scores.

Opportunity Index. The impact of COVID-19 varied because of each state's economic, education, health, and community standing prior to the beginning of the pandemic. To analyze the relationship between each state's standing and its COVID-19 reopening decision, the Opportunity Index was used. The index was developed by Opportunity Nation, Forum for Youth Investment, and Child Trends and uses economic, education, health, and community-related data to create a composite measure that reflects the nature of opportunity in the United States. The index can be broken down geographically to state and county levels. As shown in Appendix A, each of the indicators has subgroups (Opportunity Index, n.d.).

The Opportunity Index uses data from the U.S. Census Bureau, the U.S. Department of Labor Statistics, and the U.S. Department of Justice. Three steps are used to calculate opportunity scores: rescaling indicators, calculating dimension scores, and calculating opportunity scores and grades. The Opportunity Index was also categorized into three groups, such that a low Opportunity Index had a score between 42.4 and 49.9, a medium index had a score between 50.1 and 56.6, and

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high score was between 56.7 and 63.1. State scores were analyzed to evaluate whether Opportunity Index scores correlated with state reopening decisions.

State mortality rates. To identify the impact of state mortality rates on state reopening decision-making, this study used the cumulative number of deaths per 100,000 through June 17, 2020. These data were collected from the CDC's COVID-19 Data Tracker, which tracked daily COVID-19 mortality rates throughout the pandemic. States were then classified from lower to higher mortality risk as follows: low-risk, 1 to 10 deaths; medium risk, 11 to 23 deaths; and high risk, 24 to 348 deaths. These scores were then used to determine whether state mortality rates correlated with state reopening scores.

Public health emergency preparedness. To measure state public health emergency preparedness, this study used the Trust for America's Health (TFAH) report *Ready or Not: Protecting the Public's Health from Diseases, Disasters and Bioterrorism* (2020). The 2020 TFAH report used 10 indicators to rank states based on their public health emergency preparedness by tier in 2019: high tier, middle tier, and low tier. For the 2020 report, 25 states received a ranking of high, 12 as middle, and 13 as low. States designated as low received a score of 1; middle, a score of 2; and high, a score of 3. The rankings only reflected state preparedness and did not necessarily correspond with each state's effectiveness in handling the public health crisis (Faberman et al., 2020).

To examine the relationship between the state reopening score and the six state characteristics, we tested six hypotheses:

H1: A state with a Republican governor is more likely to have a low reopening score.
H2: A state with a Republican-controlled legislature is more likely to have a low reopening score.
H3: A state with a moralistic political culture is less likely to have a low reopening score compared with states with an individualist political culture.
H4: A state with a lower Opportunity Index score is less likely to have a low reopening score.
H5: A state with a higher COVID-19 mortality rate is less likely to have a low reopening score.
H6: A state that scored low on public health emergency preparedness is less likely to have a low reopening score.

Statistical analyses

The state characteristics were summarized and compared across the three categories of reopening scores in a bivariate analysis, using the chi-square or Fisher exact test for the categorical variables and a one-way analysis of variance (ANOVA) for the continuous variables. A cumulative logit model was used to assess the primary research question by investigating the effects of the state characteristics on the likelihood of reopening. The proportional odds assumption was checked and found reasonable, and then adjusted odds ratios with their 95% CIs were estimated from the model. All analyses were performed using SAS version 9.4 (SAS Institute), the statistical significance level was set at $\alpha = 0.05$, and all p-values are based on two-tailed tests as appropriate.

Results

Description of the state characteristics

The study sample consists of 50 U.S. states, of which 18 were classified as lenient (36%), 17 as moderate (34%), and 15 as stringent (30%) based on their reopening score. The overall mean reopening score for all states was 13.50 ($SD = 4.4$), and it ranged from 4 to 23. State characteristics stratified by reopening score categories are shown in Table 1. Compared with stringent states, lenient states were more likely to have a Republican governor and Republican control of the legislature (both $p < .05$). Although not statistically significant, there was a relative increase in the representation of individualistic political culture in stringent states compared with lenient states (47.1% versus 17.6%), as well as a higher Opportunity Index score in stringent states (31.3% versus 25.0%). In addition, states with a low number of deaths tended to be lenient compared with states with high mortality, which tended to be moderate and stringent. Finally, states with moderate reopening decision-making ($n = 17$) tended to have a Republican governor ($n = 9$, 53.0%) but a Democratic legislature ($n = 10$, 59%). In the overall sample, about half the states ($n = 25$) had a high public health emergency preparedness score. The results show no statistically significant differences in COVID-19-related mortality rates, political culture, or public health preparedness score across the three reopening categories.

Effects of state characteristics on the likelihood of reopening

The results of the cumulative logit model (CLM) for assessing the likelihood of reopening using adjusted odds ratios estimates and their 95% confidence intervals (CIs) are displayed in Table 2. The CLM modeled the probability of a lenient reopening. The score chi-square for

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Table 1. State characteristics by categories of reopening scores.

			Reopening score						
	Overall sample		Lenient ($N = 18$, 36%)		Moderate ($N = 17$, 34%)		Stringent ($N = 15$, 30%)		
State characteristics	*N*	(%)	*N*	(%)	*N*	(%)	*N*	(%)	*p*-value
Reopening score									
	13.5 (4.4)		9.2 (1.8)		13.4 (1.2)		18.8 (2.7)		—
Legislature									.021
Republican	26	(52.0)	14	(53.8)	7	(26.9)	5	(19.2)	
Democrat	24	(48.0)	4	(16.7)	10	(41.7)	10	(41.7)	
Governor									**< .0001**
N/A	1	(2.0)	0	0	1	(100.0)	0	0	
Republican	29	(58.0)	17	(58.6)	9	(31.0)	3	(10.3)	
Democrat	19	(38.0)	1	(5.3)	6	(31.6)	12	(63.2)	
Divided	1	(2.0)	0	0	1	(100.0)	0	0	
Political culture									.289
Individualistic	17	(34.0)	3	(17.6)	6	(35.3)	8	(47.1)	
Moralistic	17	(34.0)	8	(47.1)	5	(29.4)	4	(23.5)	
Traditionalistic	16	(32.0)	7	(43.8)	6	(37.5)	3	(18.8)	
Opportunity Index score									.790
Low	16	(32.0)	7	(43.8)	5	(31.3)	4	(25.0)	
Medium	18	(36.0)	7	(38.9)	5	(27.8)	6	(33.3)	
High	16	(32.0)	4	(25.0)	7	(43.8)	5	(31.3)	
Opportunity Index score									.855
Mean (SD)	53.62 (5.33)		53.14 (4.60)		53.61 (5.97)		54.21 (5.68)		
Public health preparedness									.726
Low	13	(26.0)	5	(38.5)	4	(30.8)	4	(30.8)	
Medium	12	(24.0)	4	(33.3)	6	(50.0)	2	(16.7)	
High	25	(50.0)	9	(36.0)	7	(28.0)	9	(36.0)	
Cumulative number of deaths per 100,000									.726
Low	13	(34)	9	(52.9)	4	(23.5)	4	(23.5)	
Medium	12	(32)	7	(43.8)	4	(25)	5	(31.3)	
High	25	(34)	2	(11.8)	9	(52.9)	6	(35.3)	
Cumulative Number of Deaths per 100,000									.1037
Low	17		9	52.9	4	23.5	4	23.5	
Medium	16		7	43.8	4	25	5	31.3	
High	17		2	11.8	9	52.9	6	35.3	
Cumulative Number of Deaths per 100,000 Mean (*SD*)	33.5 (55.02)		13.78 (11.26)		37.53 (40.32)		52.6 (87.60)		.121

testing the proportional odds assumption was 5.286 ($p = .8087$), which is not significant with respect to a chi-square distribution with 9 degrees of freedom. This indicates that the proportional odds assumption is satisfied. The Hosmer and Lemeshow goodness-of-fit test for the model was not significant ($p = .5779$, chi-square = 13.32, $df = 15$), indicating a good model fit.

From the results in Table 2, the most significant predictor of a state's reopening decision was found to be the party of the governor ($p < .01$). More specifically, states with a Republican governor had 24.89 times greater odds of being lenient about reopening as those with Democratic governors (95% CI [4.19, 191.49]). There was no significant difference in lenient reopening decisions between state with Republican and Democratic legislatures. Appendices B and C show the predicted probabilities of a decision to reopen based on the aforementioned significant predictors. For example, a state with a Democrat governor had a probability of 63.92% of being stringent in its decision to reopen compared with a state with a Republican governor, which had a probability of 58.04% of being lenient about reopening (Figure 1).

Finally, the public health preparedness and the Opportunity Index score did not have an impact on a state reopening decision. Although not significant, these two indicators suggested protective and lower odds of a lenient reopening when their scores are low.

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Table 2. Odds ratios estimates and 95% CIs from the cumulative logit model.

State characteristics	Odds ratio estimate	95% CI	*p*-value
Legislature			
Republican	2.22	[0.51, 9.91]	
Democrat	ref	—	—
Governor			
Republican	24.89	[4.19, 191.49]	.0002*
Democrat	ref	—	—
Political culture			
Individualistic	0.31	[0.02, 5.39]	
Moralistic	0.67	[0.04, 11.85]	
Traditionalistic	ref	—	—
Opportunity Index score			
Low	0.12	[0, 2.45]	
Medium	0.61	[0.09, 3.65]	
High	ref	—	—
Public health preparedness			
Low	0.74	[0.14, 3.57]	
Medium	1.01	[0.19, 5.47]	
High	ref	—	—
Cumulative number of COVID-19 deaths per 100,000			
Low	1.08	[0.2, 5.63]	
Medium	1.28	[0.25, 6.73]	
High	ref	—	—

*Statistically significant.

Discussion

This study examined the relationship between states' reopening scores and six state characteristics to help determine whether states were more likely to reopen if they had a strong sense of public health preparedness and available state resources or whether their decisions to reopen relied on their state politics and political culture. To understand the variables that explain state reopenings we tested six hypotheses. The results showed correlated support for one of the six hypotheses: a state with a Republican governor was more likely to have a low reopening score.

In states with Republican governors, the public health policy decisions to reopen state were found to be more lenient than in states led by Democratic governors. In fact, the data showed that states with Republican governors were 17.74 times more likely to implement lenient reopening policies than their Democratic counterparts. Furthermore, the data showed that in states with a Republican-controlled legislature, political culture, public health preparedness, higher COVID-19 mortality rates, and Opportunity Index score were not significant predictors of a state's reopening decision. The results of the study demonstrate the significance of the political party of the governor for public health decisions to reopen states during the COVID-19 pandemic.

Conclusion

These findings reveal that although states may have the infrastructure and means to support public health interventions, party affiliation and politics within the party of the state executive played a more instrumental role in public health policies regarding state reopening decisions during the COVID-19 pandemic. Regardless of their political culture, public health preparedness, or Opportunity Index score, this study found that states relied on executive partisanship for their COVID-19 decision-making. Moreover, states did not implement more stringent reopening policies if their COVID-19 mortality rates were higher than other states.

This research has taken the unique approach of examining whether states take advantage of the resources at their disposal or retreat to political comforts, but it is not without its limitations. There are two limitations of this study. One is that it focuses on policies from a single point in time. Gauging all states at a single policy point in time allowed the opportunity for comparative analysis of state decision-making during a single reopening phase. Second, because the study only uses 50 cases, it is underpowered statistically, which could be related to some nonsignificant results found in our study.

This study has also led to an additional area of exploration. Future research will include reviewing

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the COVID-19 interventions of the Joe Biden administration and whether it takes aggressive steps to combat the pandemic and how this influences state action.

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Appendix A. Opportunity Index indicators.

Dimension	Indicator	Description
Economy	Jobs	Unemployment rate (percentage of the population ages 16 and older who are not working but available for and seeking work)
	Wages	Median household income (in 2010 dollars)
	Poverty	Percentage of the population below the federal poverty level (the amount of pretax cash income considered adequate for an individual or family to meet basic needs)
	Income inequality	80/20 ratio (ratio of household income at the 80th percentile to that at the 20th percentile)
	Access to banking services	Number of banking institutions (commercial banks, savings institutions and credit unions) per 10,000 residents
	Affordable housing	Percentage of households spending less than 30 percent of their income on housing-related costs
	Broadband internet subscription	Percentage of households with subscriptions to broadband internet service
Education	Preschool enrollment	Percentage of 3- and 4-year-olds attending preschool
	High school graduation	On-time high school graduation rate (percentage of freshmen who graduate in four years)
	Postsecondary education	Percentage of adults aged 25 and older with an associate's degree or higher
Health	Low birth weight	Percentage of infants born weighing less than 5.5 pounds
	Health insurance coverage	Percentage of the population (under age 65) without health insurance coverage
	Deaths related to alcohol/drug use and suicide	Deaths attributed to alcohol or drug poisoning, or suicide (age-adjusted rate per 100,000 population)
Community	Volunteering	Percentage of adults (ages 18 and older) who reported they volunteered during the previous year
	Voter registration	Percentage of adults ages 18 and older who are registered to vote (national and state-level only)
	Youth Disconnection	Percentage of youth (aged 16–24) not in school and not working
	Violent crime	Incidents of violent crime reported to law enforcement agencies (per 100,000 population)
	Access to primary health care	Number of primary care physicians (per 100,000 population)
	Access to healthy food	Number of grocery stores and produce vendors (per 10,000 population)
	Incarceration	Number of people incarcerated in jail or prison (per 100,000 population 18 and older) (national and state-level only)

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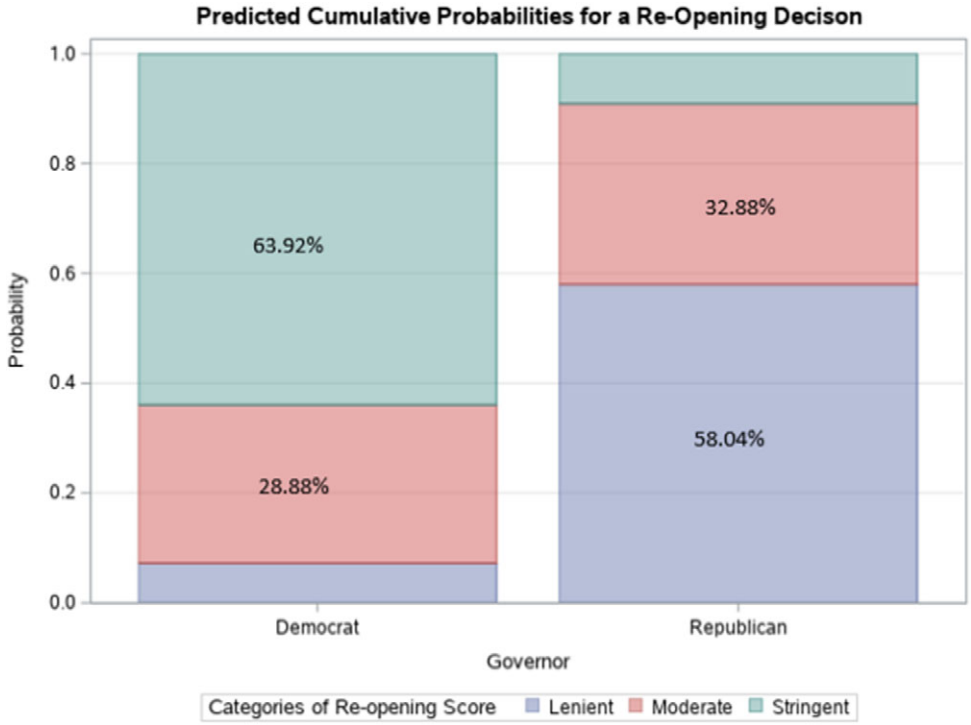
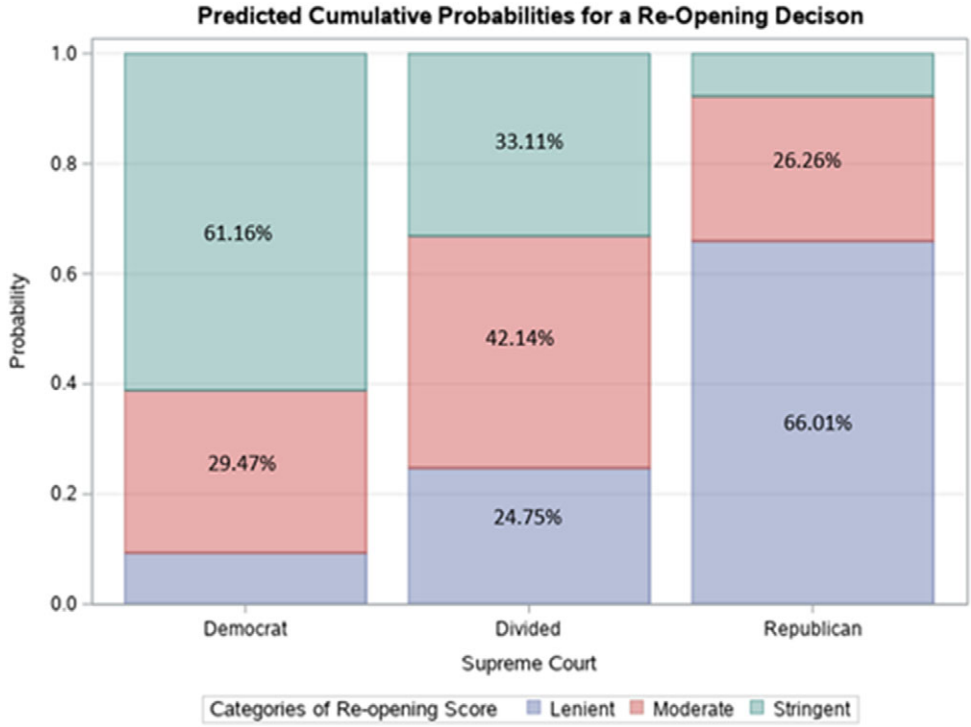


Appendix B. Predicted probability of a reopening decision based of the party of the governor.



Appendix C. Predicted probability of a reopening decision based on the party in control of the legislature.

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