# Partisanship, Trumpism, and Health Behavior in the COVID-19 Pandemic:

# Evidence from Panel Data

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A wide range of empirical scholarship has documented a partisan gap in health behaviors during the COVID-19 pandemic in the United States, but the political foundations and temporal dynamics of these partisan gaps remain poorly understood. Using an original six-wave individual panel study of Americans throughout the course of the COVID-19 pandemic, we find that at the individual level, partisan differences in health behavior grew rapidly in the early months of the pandemic, and are explained almost entirely by individual support for or opposition to President Trump. Our results comprise powerful evidence that Trumpism, rather than ideology or simple partisan identity, explains partisan gaps in health behavior in the United States.

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## Introduction

Partisanship is a central determinant of health behavior during the COVID-19 pandemic in the United States (Gadarian, Goodman, and Pepinsky 2021, Allcott et al. 2020, Clinton et al. 2021). Yet even though the COVID-19 pandemic emerged at a time of heightened partisan rancor that built on longstanding cleavages in American politics (Lieberman et al. 2018), partisan conflict was also fueled by President Trump's unique personality and political style (Mason, Wronski, and Kane 2021, Conway, Repke, and Houck 2017). It remains an open question whether partisan differences in health behaviors during the COVID-19 pandemic reflect individual partisan identities, or instead ideological differences across parties (Hetherington and Weiler 2018, Feldman 1988) or attitudes to towards President Trump himself. Using novel individual-level panel data from a representative sample of Americans surveyed repeatedly during the first year of the COVID-19 pandemic, we show that partisan differences in health behaviors are specifically a product of Trumpism, rather than ideological differences or partisan attachments.

To build this argument, we draw on the literature on American politics that investigates the social and ideological foundations of partisan attachment (Campbell et al. 1960, Abramowitz and Webster 2016, Huddy, Mason, and Aarøe 2015). We conceptualize the relationship between partisan affiliation and health behaviors as plausibly capturing at least three non-exclusive phenomena: an individual's ideological predisposition, where conservatives are usually members of the Republican Party and liberals are usually members of the Democratic Party (Levendusky 2009); teamsmanship (Theodoridis 2017, Lenz 2013), where individuals follow their co-partisans in adopting behaviors associated with their party label (Mason 2018b); and Trumpism, where individuals who support President Trump tend to affiliate with the Republican Party (Barber and Pope 2019b). Each of these factors may explain partisan differences in health behaviors because individuals' health behaviors reflect their ideological predispositions, because individuals adopting health behaviors associated with their party label, or because Trump supporters follow his skeptical rhetoric about the pandemic and its implications for public life.

The central challenge facing most observational studies of the partisan correlates of health behavior is that it is difficult to disentangle partisan, ideological, and Trumpist explanations for COVID-19 outcomes. This is particularly the case for ecological analyses that estimate the relationship between health behaviors and partisanship across counties or other geographical units, which must rely on proxies such as presidential vote share to measure partisanship (Gollwitzer et al. 2020). Using rich individual-level panel data, we confirm that partisan differences exist across a wide range of behavioral measures in response to COVID-19. But although partisanship, ideology, and Trumpism are correlated, they are empirically distinguishable. Support for President Trump consistently predicts health behaviors, overshadowing the explanatory power for partisanship and ideology. Our findings are consistent

with an interpretation of the partisan dynamics of the COVID-19 pandemic revolving fundamentally around President Trump, as the leader of the Republican Party, rather than pure partisanship or conservative ideology. Exploiting the temporal structure of our data, we also find that health behaviors diverged early in the pandemic, grew through its first months, and then and remained substantively large over the subsequent year, well into the first months of the Biden administration.

In the next section, we situate our study in the literature on partisanship, emphasizing the social dimensions of partisanship and the role of charismatic authority in shaping partisan behaviors. We then describe our data and how its unique features provide us with unparallel insights into the political foundations of American partisanship in the COVID-19 pandemic. The subsequent section introduces our empirical strategy and presents our central findings. The final section concludes with a discussion of the broader implications of our analysis.

**Trumpism**

Research on the politics of the COVID-19 pandemic has consistently uncovered evidence of partisan differences in individual health behaviors (Clinton et al. 2021, Gadarian, Goodman, and Pepinsky 2021, Allcott et al. 2020, Fowler and Utych 2020, MacMillen 2020, Milosh et al. 2020). These individual findings are complemented by other partisan dimensions of the pandemic, during which Republican governors were slower to shut down at the early part of the pandemic, earlier to open up their economies than Democratic governors (Adolph et al. 2020, Grossman et al. 2020, Adolph et al.), and less likely to implement mask mandates (Wright et al. 2020). But what explains partisan differences in health behavior?

One possibility is ideology, which acts as a framework that structures policy attitudes. In the American context, ideology is increasingly aligned with partisanship (Levendusky 2009).

While most citizens do not have consistent enough attitudes to act in fully ideological manner (Kinder and Kalmoe 2017, Converse 1964), ideology is powerful enough that people will adjust other behaviors and importantly, other identities, to be in line with it, including their religion, sexual orientation classification, ethnicity, racial identity (Egan 2020, Margolis 2018, Davenport 2020). Ideology may therefore shape non-political behaviors like health responses to a pandemic, especially when these behaviors are made salient by political actors.

A second possibility is that partisanship can function as an expressive identity that aligns with other closely held identities (Fiorina 2002, Gerber and Green 1998). People may align with parties that most fully represent their views on the size and scope of government, economic interests, and policy positions. But partisanship is also a social identity that increasingly divides people not simply by their policy views but also by their affect toward the groups people believe are make up their own party (Dias and Lelkes 2021) and the other party (Iyengar, Sood, and Lelkes 2012, Westwood and Peterson 2020). Cues from co-partisans provide information about the position the party takes on policy issues, but also can refract the salience of issues and even perceptions of fact (Bartels 2002). Partisans may therefore shift toward policy views and behaviors that are shared by their party (Lenz 2013, Bolsen, Druckman, and Cook 2014).

Finally, Trump's charismatic appeal could have rallied his supporters around a defiant message with respect to expert opinion on health behavior. Trump supporters express more animus toward outgroups like immigrants, racial and religious minorities, and LGBT groups (Bartels 2018, Mason, Wronski, and Kane 2021), express negative views toward "political correctness" (Enders and Uscinski 2021), and are more symbolically tied to conservatism but less knowledgeable than Republicans (Barber and Pope 2019b, a) who do not support Trump. Strong symbolic loyalty to an ideology or political figure can increase anger and negative

feelings toward outgroup members (Mason 2018a). Loyalty to Trump above party or ideology could lead the public to eschew public health measures endorsed by officials Trump publicly disagreed with (Tankersly, Haberman, and Rabin 2020). As Schneiker (2020) has argued, Trump's particular brand of charismatic appeal—not simply as a populist, but as a "superhero" with unique authority and knowledge that establishment politicians and economic elites lack—can explain both his particular choice of policies and the appeal that they have among his supporters.

**Data**

To examine the evolution of partisan differences in health behavior over the course of the COVID-19 pandemic, we partnered with YouGov to conduct a panel survey of Americans' attitudes. Previous research on the effect of partisanship on the COVID-19 relies on large cross sections (Clinton et al. 2021, Milosh et al. 2020), analyzes a higher level of aggregation like counties or states (Grossman et al. 2020), or focuses on a limited number of health behaviors like social distancing (Adolph et al. 2021). By following the same respondents over the course of the pandemic, interviewing the panel six times from March 2020 to March 2021, we observe changes in health behaviors over time *within individuals*, and link early pandemic political orientations to a broad set of health behaviors many months later. This research was approved by the Institutional Review Board for Human Participant Research at REDACTED (Protocol 2003009479), the Institutional Review Board at the Office of Research Integrity and Protections at REDACTED (Protocol 20-099), and the REDACTED (through a procedure of self-exemption with confirmation from the Office of Research, March 6, 2020).

Our primary dependent variables are nine indicators of COVID-19 related health behavior. In each round of the survey, respondents were asked whether they had adapted the

following behaviors in response to COVID-19 or not. A list of dependent variables and summary statistics from Wave 1 of the survey can be found in Table 1.

**Table 1: Dependent Variables and Summary Statistics (Wave 1)**

| Variable | N | Mean | SD | Min | Max |
|---|---|---|---|---|---|
| Washed Hands More | 3000 | .855 | .352 | 0 | 1 |
| Bought Sanitizer | 3000 | .407 | .491 | 0 | 1 |
| Visited the Doctor | 3000 | .047 | .212 | 0 | 1 |
| Changed Travel Plans | 3000 | .329 | .470 | 0 | 1 |
| Avoided Contact with Others | 3000 | .660 | .474 | 0 | 1 |
| Avoided Gatherings | 3000 | .772 | .419 | 0 | 1 |
| Sought Information on COVID | 3000 | .546 | .498 | 0 | 1 |
| Self-Quarantined | 3000 | .357 | .479 | 0 | 1 |
| Wore a Mask | 2401 | .673 | .469 | 0 | 1 |

Note: The summary statistics for Wore a Mask are for Wave 2, which is the first wave in which we asked this question.

We measure partisanship, ideology, and Trumpism using three separate items. The first, *Party ID*, asks respondents to identify as Republicans, Democrats, or Others (third party supporters, non-partisans, and non-respondent) based on Pew's PID3 variable. *Ideology* classifies respondents as Liberal, Conservative, or Moderates and Others. *Trump Support* classifies respondents as intending to vote for President Trump in the 2020 presidential election, the Democratic candidate (Wave 1 was fielded before the conclusion of the 2020 primary season), or another candidate or abstaining. In Table 2 we show the joint distribution of these three variables.

**Table 2: *Party ID*, *Ideology*, and *Trump Support* (Wave 1)**

| | | *Ideology* | | | |
|---|---|---|---|---|---|
| | | Conservatives | Liberals | Moderates/Others | TOTAL |
| *Party ID* | Republican | 616 | 28 | 131 | 775 |
| | Democrat | 81 | 744 | 351 | 1176 |
| | Other | 264 | 225 | 560 | 1049 |
| | TOTAL | 961 | 997 | 1042 | 3000 |

$$\chi^2(4) = 1.544, p < .0001$$

| | | *Trump Support* | | | |
|---|---|---|---|---|---|
| | | Trump | Democrat | Other/Abstain | TOTAL |
| *Party ID* | Republican | 706 | 48 | 21 | 775 |
| | Democrat | 54 | 1057 | 64 | 1175 |
| | Other | 401 | 378 | 270 | 1049 |
| | TOTAL | 1161 | 1483 | 355 | 2999 |

$$\chi^2(4) = 1.890.4, p < .0001$$

| | | *Trump Support* | | | |
|---|---|---|---|---|---|
| | | Trump | Democrat | Other/Abstain | TOTAL |
| *Ideology* | Conservatives | 822 | 92 | 47 | 961 |
| | Liberals | 48 | 856 | 93 | 997 |
| | Moderates/Others | 291 | 535 | 215 | 1041 |
| | TOTAL | 1161 | 1483 | 355 | 2999 |

$$\chi^2(4) = 1.561.2, p < .001$$

There is a strong relationship between each of these variables: Conservatives are mostly Republicans, Democrats mostly intend to vote for the Democratic candidate in 2020, and so forth. But we do find abundant residual variation, with especially with non-partisans/third-party supporters who report roughly equal propensity to vote for Trump or the Democrat, as well as notable instances of Trump-voting Democrats and Democrat-supporting nonpartisans, among others. This is the variation that allows us to disentangle empirically the relationship between partisanship, ideology, and Trump support.

Before proceeding, we consider the problem of causal ordering and how to interpret regression results that jointly include all three of these explanatory variables. If partisanship causes Trumpism, then controlling for Trumpism will generate post-treatment bias in our estimate of the relationship between partisanship and health behavior. But the reverse is also true: if supporting President Trump leads voters to switch their partisan identities, then controlling for partisanship will generate post-treatment bias in our estimate of the effect of Trumpism. We view the true causal interrelationships among Trumpism, ideology, and partisanship to be unknown: we have no theory, nor any evidence, that can rule out any causal

pathway in any direction from any pair of these variables. When applying a multiple regression framework such as the one that we employ here, then, we are careful not to describe these coefficients as causal effects. They are partial correlations that should be interpreted as capturing the extent to which the data are consistent with a non-zero conditional correlation between each independent variable of interest and health behavior.

**Methods and Results**

Our baseline empirical model investigates the relationship between partisan identification at the onset of the pandemic and subsequent health behavior across subsequent waves, controlling for a wide range of demographic and geographic factors that also vary across waves and individual random effects. We estimate the following model using a mixed-effects logistic regression specification:

$$y_{it} = \boldsymbol{\beta}\mathbf{Party\ ID}_{i,t=1} \times \mathbf{Wave}_t + \boldsymbol{\gamma}\mathbf{X}_{i,t=1} \times \mathbf{Wave}_t + \boldsymbol{\delta}\mathbf{Z}_{it} \times \mathbf{Wave}_t + \rho_i + \varepsilon_{it} \quad (1)$$

$y_{it}$ captures dependent variables for individual *i* in wave *t*. $\mathbf{Party\ ID}_{i,t=1}$ measures party identification in the first wave of the survey using dummy variables for Democrat, Republican, and Other; $\mathbf{Wave}_t$ is a set of six indicator variables capturing each of the survey waves; and the vector of coefficients $\boldsymbol{\beta}$ captures each combination of partisanship and survey wave. The elements of $\mathbf{X}_{i,t=1}$ include indicators for other demographic and geographical variables measured in Wave 1 (see Table S1 for summary statistics), each modeled as fixed effects. These include gender (male and female), age (four categories), race/ethnicity (four categories), income (four categories), education (four categories), marital status (two categories), employment status (unemployed or not), state of residence (fifty-one categories), and a measure of the urban/rural county status (nine categories). Each element of **X** is also interacted with indicators for each

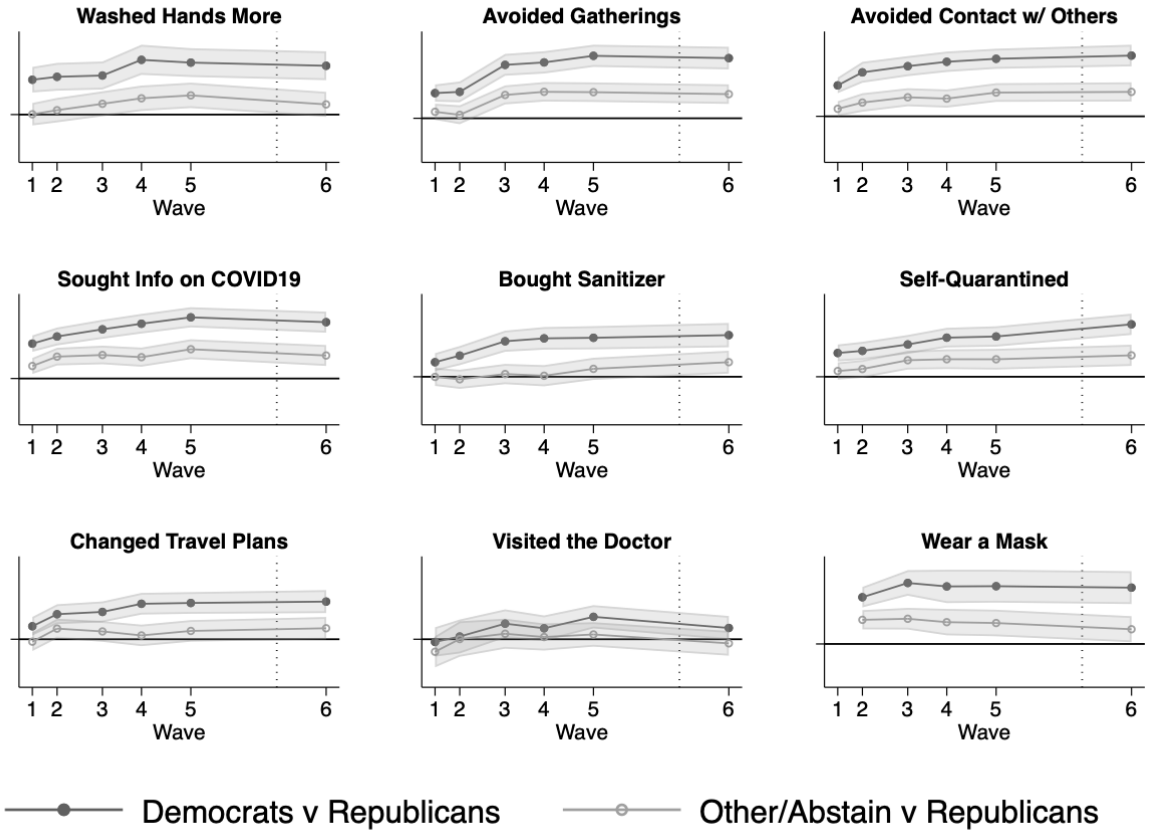
survey wave, assuming that individuals' demographic and geographic characteristics are constant across panel waves but allowing their relationship with each outcome to vary by survey wave. $\mathbf{Z}_{it}$ measures county-level COVID-19 rates at each wave of the survey: growth in total cases and growth in total deaths—both raw and per capita—relative to the fourteen days prior to the first day of each survey wave. Each measure of local COVID-19 intensity in $\mathbf{Z}_{it}$ is also interacted with survey waves (see Table S1, Panel J for summary statistics and sources). $\rho_i$ is an individual-level random effect identified through the assumption that $\rho_i \sim N(0, \sigma^2)$, and $\varepsilon_{it}$ is an error term.

Our estimation strategy is quite flexible. It allows the relationship between partisanship and health outcomes to vary across waves without assuming a linear (or any other) relationship between time, partisanship, and our outcome variables (Hainmueller, Mummolo, and Xu 2019). Additionally, our extensive battery of wave-by-demography fixed effects adjusts, for example, for differences across states over time (a fixed effect for Alabama in Wave 1, for Alabama in Wave 2…), by race over time (Black in Wave 1, Black in Wave 2…), by educational attainment (High School or less in Wave 1, High School or less in Wave 2…) and so forth. Time-varying measures of COVID-19 capture local pandemic conditions which might be correlated both with partisanship and with health behaviors, while allowing their relationship to health behaviors to vary over time. Individual random effects capture unobserved, time-invariant differences across individuals.

In Figure 1 we display our first set of results. Each plot traces our estimates of the partisan difference in that health behaviors between Democrats and Republicans (closed circles) and between Others/Abstainers and Republicans (open circles), calculated as $\beta_{Party_p} + \beta_{Party_p Wave_i}$ for $Party \in Democrat, Republican, Other$ and $Wave \in 1 \ldots 6$. The figure displays odds ratios for each comparison with 95% confidence intervals shaded. Estimates that

lie above the black reference line correspond to greater likelihood of each behavior. Estimates that cross the reference lines are not statistically distinguishable from zero.

**Figure 1: Partisan Differences in Health Behavior**




Note: each point is an estimate of the partisan difference in health behaviors between Democrats and Republicans ($\beta_{Party_{Democrat}} + \beta_{Party_{Democrat} \times Wave_i}$) and between Others/Abstainers and Republicans ($\beta_{Party_{Other}} + \beta_{Party_{Other} \times Wave_i}$) across the six waves of our survey. Estimates are expressed as odds ratios, with 95% confidence intervals shaded and values above the solid horizontal line corresponding to greater odds. The spacing between waves on each x-axis reflects the number of days from Wave 1 (March 19, 2020). The vertical dotted line corresponds to January 21, 2021, the day of President Biden's inauguration.

These results are strong evidence that partisan differences in health behavior emerged early in the pandemic and persisted over time. Partisan differences in health behavior grew most rapidly between Wave 1 and Wave 3 of the survey, after which it these differences remained roughly constant, consistent with an account of partisan behavioral responses being exacerbated in the

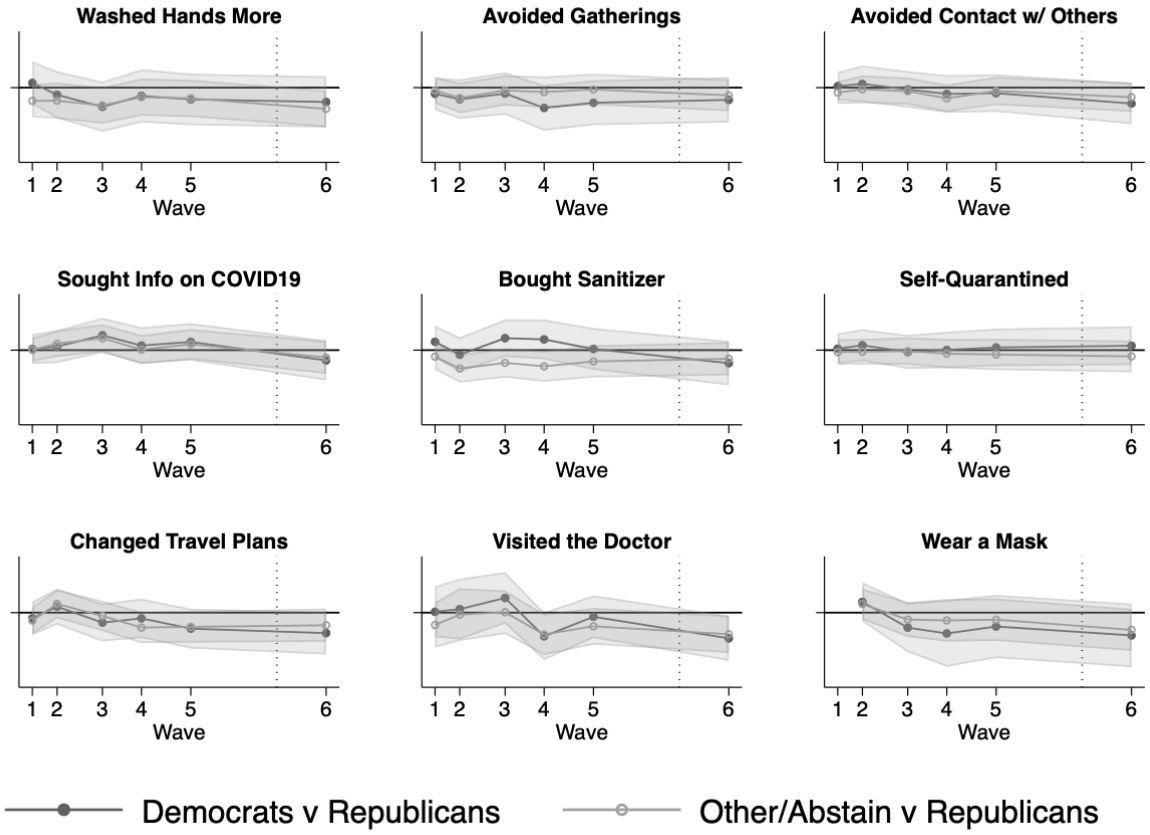
early phases of the pandemic. We also find evidence not only of a partisan gap between Democrats and Republicans, but also of a smaller but usually statistically significant gap between Republicans and all other respondents. Although partisan gaps are smaller between this heterogeneous group of respondents and Republicans, these results reveal that partisan differences in health behavior are not confined to Democrats versus Republicans.

To further investigate what these results about partisanship capture, we extend our baseline model in Equation (1) by adding our measures of ideology and prospective vote choice:

$$\begin{aligned} y_{it} = {} & \boldsymbol{\beta_{Party}}\mathbf{Party\ ID}_{i,t=1} \times \mathbf{Wave}_t + \boldsymbol{\beta_{Ideology}}\mathbf{Ideology}_{i,t=1} \times \mathbf{Wave}_t \\ & + \boldsymbol{\beta_{Trump}}\mathbf{Trump\ Support}_{i,t=1} \times \mathbf{Wave}_t + \boldsymbol{\gamma}\mathbf{X}_{i,t=1} \times \mathbf{Wave}_t \\ & + \boldsymbol{\delta}\mathbf{Z}_{it} \times \mathbf{Wave}_t + \rho_i + \varepsilon_{it} \end{aligned} \quad (2)$$

As before, we interact each of these indicator variables with indicators for survey wave, allowing the relationships between ideology, partisanship, and Trump support to vary flexibly across time. In Figure 2, we present the same results for partisanship as above, but controlling for Trump support and ideology as estimated in Equation (2). In stark contrast to Figure 1, we find no consistent evidence that partisanship is associated with health behaviors at any stage of the pandemic.

**Figure 2: Partisan Gaps in Health Behavior, Accounting for Ideology and Trump Support**

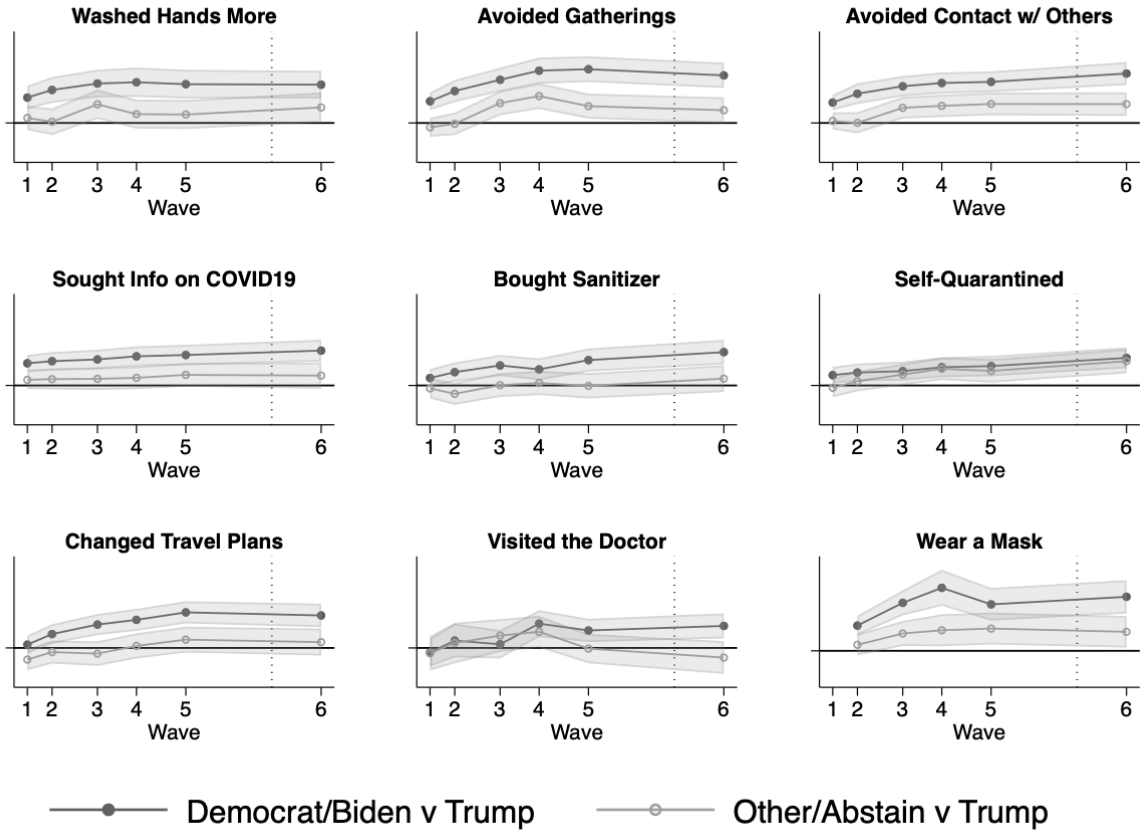



Note: each point is an estimate of the partisan difference in health behaviors between Democrats and Republicans ($\beta_{Party_{Democrat}} + \beta_{Party_{Democrat} \times Wave_i}$) and between Others/Abstainers and Republicans ($\beta_{Party_{Other}} + \beta_{Party_{Other} \times Wave_i}$) across the six waves of our survey. See the note for Figure 1 for further details.

Once we control for intended vote choice and ideological self-positioning, Democrats and nonpartisans/third-party supports are no more likely than Republicans to report any of the health behaviors for which we have data.

Figure 3 reveals that the partisan differences uncovered in Figure 1 are largely driven by support for and opposition to President Trump. Across nearly every outcome variable, we find that respondents who report that they intend to vote for Joe Biden in the 2020 presidential election were substantially more likely to report each of these health behaviors than were those who intended to vote for President Trump.

**Figure 3: Trumpism and Health Behavior**

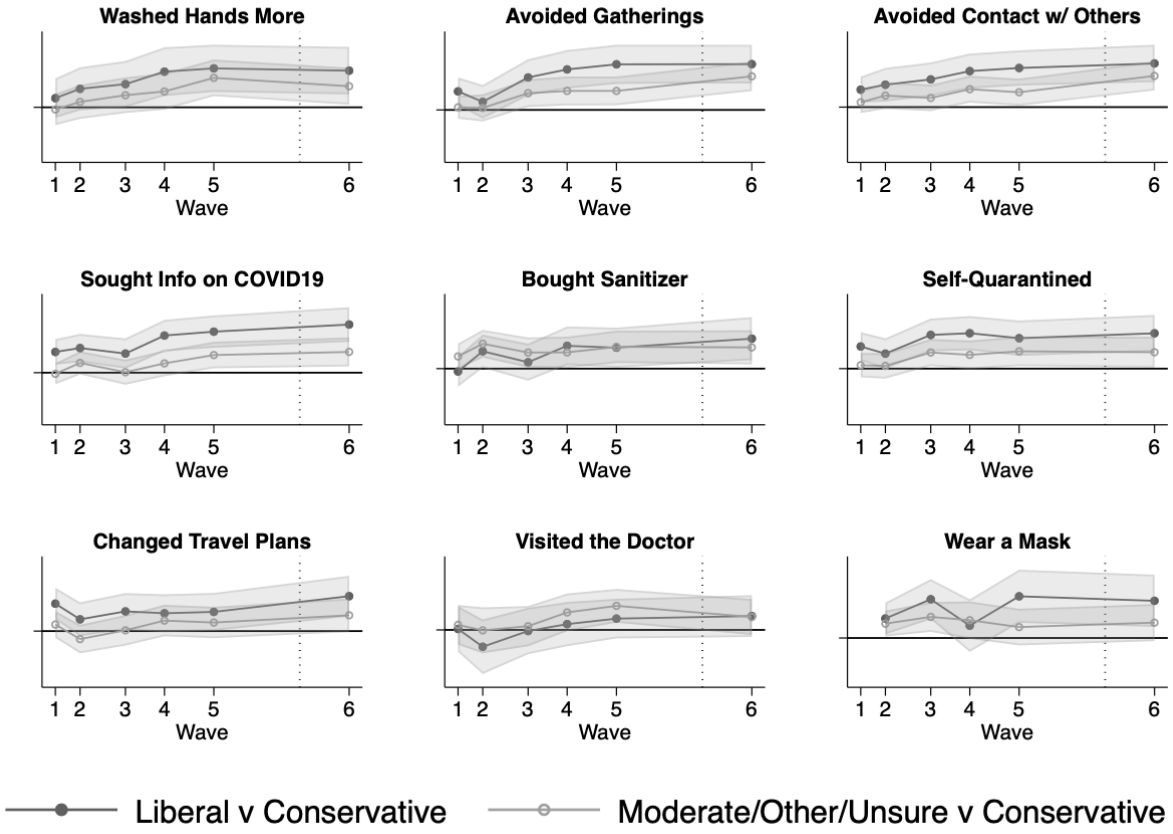



Note: each point is an estimate of the partisan difference in health behaviors between supporters of the Democratic presidential nominee and President Trump ($\beta_{Trump\ Support_{Democrat}} + \beta_{TrumpSupport_{Democrat} \times Wave_i}$) and between supports of a third party or abstainers and supporters of President Trump ($\beta_{Trump\ Support_{Other/Abstain}} + \beta_{Trump\ Support_{Other/Abstain} \times Wave_i}$) across the six waves of our survey. See the note for Figure 1 for further details.

These patterns are also visible for some behaviors—such as avoiding contact with others, self-quarantining, and wearing a mask—among voters who intended to vote either for a third-party candidate or not to vote at all. Figure 3 also establishes that the general temporal pattern we uncovered in Figure 1, where partisan differences emerged early in the pandemic but subsequently grew in the pandemic's early month, holds for differences between Trump supporters and Democratic presidential supporters as well.

Finally, in Figure 4 we compare respondents by ideological self-positioning (net of partisan affiliation and intended presidential vote choice). We find modest evidence that ideology also shapes health behaviors during the COVID-19 pandemic.

**Figure 4: Ideology and Health Behavior**




Note: each point is an estimate of the partisan difference in health behaviors between Liberals and Conservatives ($\beta_{Ideology_{Liberal}} + \beta_{Ideology_{Liberal} \times Wave_i}$) and between Moderates/Others and Conservatives ($\beta_{Ideology_{Moderate/Other}} + \beta_{Ideology_{Moderate/Other} \times Wave_i}$) across the six waves of our survey. See the note for Figure 1 for further details.

Specifically, we find that relative to conservatives, self-identified liberals are more likely to report washing hands more frequently, avoiding gatherings, seeking information, and self-quarantining. Differences between conservatives and moderates and other respondents whose

ideological self-positioning does not fall along a liberal-conservative axis are small and largely statistically insignificant.

Our results comprise strong evidence that partisan differences in health behavior are explained primarily by Trumpism. Partisan affiliation is indeed robustly associated with health behaviors, as shown in Figure 1. But these partisan differences are consistent with presidential politics in a two-party system, rather than a deeper expression of partisan attachment or ideological attachment, meaning that our more precise measure of Trump support captures the variation in health behaviors otherwise predicted by partisanship. Once we know one's 2020 vote choice, partisanship itself has little additional explanatory capacity. An implication of this finding is that future health crises would not necessarily feature the same constellation of partisan health behavior. To reiterate our caveats from above: a strict causal interpretation of these results is not possible, but our preferred interpretation is that Trumpism is a more consistent predictor of health behavior than either ideology or partisanship.

*Robustness*

In separate analyses reported in the Supplemental Appendix, we check that our results are robust to time-varying measures of our independent variables of interest, to alternative measures of partisanship and ideology, and to attrition. We also allow for individual fixed effects in a dynamic panel data approach.

Our baseline analysis uses partisanship, ideology, and Trump support in Wave 1 to measure these our main theoretical variables of interest, looking at the relationship between, for example, Trump support in March 2020 and mask wearing in April 2020 through April 2021. However, we have repeated measures of each of our political variables, with some variation in each across individuals over time. We therefore re-estimate Equation (2), replacing

$\mathbf{Trump\ Support}_{i,t=1}$ with $\mathbf{Trump\ Support}_{i,t}$,[1] $\mathbf{Ideology}_{i,t=1}$ with $\mathbf{Ideology}_{i,t}$, and $\mathbf{Party\ ID}_{i,t=1}$ with $\mathbf{Party\ ID}_{i,t}$, and find that our results are essentially unchanged (see Figures S1-S3).

We next examined whether alternative operationalizations of partisanship and ideology might uncover greater partisan or ideological differences. Our main results above use a three-value coding of partisanship based on Pew Center's "PID3" variable, which we collapse to Republican, Democrat, and Other. In its place, we created a new variable from the Pew Center's "PID7" measure, coded as Strong Republican, Strong Democrat, and All Other. By allowing us to compare Strong Democrats to Strong Republicans, this measure gives us an estimate of partisan differences among those whose partisan orientations are strongest. Similarly, our main results use a three-value coding of ideology as Conservative, Liberal, and Other, which we replace with measure that codes respondents as Very Conservative, Very Liberal, and All Other, allowing us to once again to uncover ideological differences among those most likely to hold them. Re-estimating Equation (2), we find that none of our results are changed for partisanship, ideology, or Trumpism differ when we use these more targeted measures (see Figures S4-S6).

We next checked to see if our findings are driven by differential patterns of attrition across waves. To do this, we drop from our analysis any individual who did not participate in all six waves of the survey, leaving us with a sample of 1198 respondents who completed each wave of our survey, and then re-estimated Equation (2) a final time on this restricted set of respondents. Unlike previous analyses, we weight the data in this analysis using weights that are specific to the sample of Wave 6 respondents. Our results once again remain unchanged, further

[1] In Wave 6, the Trumpism variable measures self-reported retrospective vote choice—Trump, Biden, or Other or Did Not Vote—instead of prospective vote intentions, as in the previous waves.

reassuring us that panel attrition is not responsible for the findings that we have presented above (see Figures S7-S9).

Finally, we fully exploit the panel structure of our data using an individual fixed effects approach that can absorb all individual-specific sources of heterogeneity in health behaviors while accounting for dynamics across waves. Doing so forces us to confront two methodological challenges: (1) although we have repeated measures of Trump support, partisanship, and ideology, they do not change over time for most individuals, and (2) with only six waves, ours is a "short-*T* long-*N*" panel. We therefore reformulate our inferential target to be the overall correlation between partisanship and health behaviors across waves, and model temporal dependence using a dynamic panel data approach (Arellano and Bover 1995, Blundell and Bond 1998). Because these fixed effects models net out any time-invariant covariates, we lose substantial statistical power because most of our respondents' partisanship, ideological self-placement, and support for President Trump do not change over the course of the six waves. For this reason, we replace our individual dependent variables in this analysis with a composite dependent variable (created four different ways; see Supplemental Appendix for details). Our main results remain unchanged: Trumpism is consistently associated with greater compliance with pro-social health behaviors, whereas the partial correlations between ideology and partisanship and health behaviors are generally statistically insignificant (see Table S2).

**Discussion**

In this letter, we have used detailed individual-level panel data from a representative sample of Americans to probe the partisan foundations of health behavior during the COVID-19 pandemic. Our central finding is that partisan differences in health behaviors are best explained by attitudes towards President Trump: the observed partisan differences in health behaviors in

the United States are attenuated once we account for respondents' support for the former president. Our findings offer novel insights into what exactly partisan differences in health behavior are capturing in the COVID-19 era and are consistent with an account of Trumpism as superseding partisanship or ideology as the primary axis in U.S. politics during the height of the COVID-19 pandemic.

Our findings contribute to our understanding contemporary partisanship in the United States as well as to our understanding of the politics of the COVID-19 pandemic. President Trump's charismatic leadership style became a focal point of both Republican politics and for his Democratic opponents. His outsized influence on public life surpassed even partisanship and ideology in explaining Americans' interpretation of the pandemic; in such a context, what one believed about the president was sufficient to predict their behaviors even during a national emergency. Future research may investigate other ways in which Trump's leadership style and "superhero" populist approach reoriented American partisanship, both in terms of over time change and other policy domains, including foreign policy (e.g., US attitudes toward Russia). It may also look comparatively at cases such as Brazil and the Philippines, where hardline populist leaders in more fragmented partisan environments may have had similar effects on mass behaviors. Finally, research on other highly polarized partisan contexts *without* charismatic populist leaders—Taiwan and South Korea, among others—may help to refine our understanding of the links between partisanship, populist charismatic leadership, and pandemic management.

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# SUPPLEMENTAL APPENDIX

## Partisanship, Trumpism, and Health Behavior in the COVID-19 Pandemic: Evidence from Panel Data

**Sample details:**

Our sample was collected by YouGov using their standard online panel. YouGov recruits and maintains an online respondent pool using a procedure called Active Sampling, in which restrictions are put into place to ensure that only people contacted are allowed to participate, form a pool of registered users. YouGov panels are populated by a host of recruitment strategies, including standard advertising and strategic partnerships with a broad range of websites. YouGov employs internal rules for determining eligibility and exclusion criteria, and researchers play no role in selecting the participants. Participants in YouGov panels are internally and fairly compensated with points, which may be redeemed for rewards, including cash and gift cards (e.g., Amazon, Best Buy, Target). Researchers play no role in assigning point value.

In obtaining a representative sample, the pool of participants was nationally diverse and random within the sampling frame. The research does not differentially affect vulnerable populations, nor does it differentially benefit or harm particular groups. Participation was voluntary and consent was obtained using an IRB-approved protocol. Participants had to click "yes" to affirm informed consent and, if confirmed, were directed to the start of the survey.

YouGov began with a sample of 3328 respondents who were matched to a sampling frame derived from the full 2016 American Community Survey 1-year sample on age, gender, race, and education. Matched cases were weighted to the sampling frame using propensity scores, with a propensity function that includes age, gender, race/ethnicity, years of education,

and Census region. 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. We do not exclude any respondents from our analysis, nor do we drop any respondents for missing data purposes. We employ sampling weights in our Wave 1 analysis.

**Table S1: Descriptive and Summary Statistics**

Panel A: Age Categories

| | Freq. | Percent | Cum. |
|---|---|---|---|
| 18-29 | 424 | 14.13 | 14.13 |
| 30-44 | 840 | 28.00 | 42.13 |
| 45-64 | 1068 | 35.60 | 77.73 |
| 65- | 668 | 22.27 | 100.00 |

Panel B: Gender

| | Freq. | Percent | Cum. |
|---|---|---|---|
| Male | 1404 | 46.80 | 46.80 |
| Female | 1596 | 53.20 | 100.00 |

Panel C: Race/Ethnicity

| | Freq. | Percent | Cum. |
|---|---|---|---|
| White | 2171 | 72.37 | 72.37 |
| Black | 308 | 10.27 | 82.63 |
| Hispanic | 322 | 10.73 | 93.37 |
| Other | 199 | 6.63 | 100.00 |

Panel D: Income

| | Freq. | Percent | Cum. |
|---|---|---|---|
| Less than $30k/yr | 1335 | 44.50 | 44.50 |
| $30-70k/yr | 651 | 21.70 | 66.20 |
| $70-120k/yr | 625 | 20.83 | 87.03 |
| More than $120k/yr | 389 | 12.97 | 100.00 |

Panel E: Education

| | Freq. | Percent | Cum. |
|---|---|---|---|
| High School or Less | 989 | 32.97 | 32.97 |
| Some College | 1042 | 34.73 | 67.70 |
| College Graduate | 606 | 20.20 | 87.90 |
| Post Graduate | 363 | 12.10 | 100.00 |

Panel F: Marital Status

| | Freq. | Percent | Cum. |
|---|---|---|---|
| Married | 1443 | 48.10 | 48.10 |
| Separated | 48 | 1.60 | 49.70 |
| Divorced | 331 | 11.03 | 60.73 |
| Widowed | 183 | 6.10 | 66.83 |
| Never married | 846 | 28.20 | 95.03 |
| Domestic/civil partnership | 149 | 4.97 | 100.00 |

Panel G: Unemployment Status

| | Freq. | Percent | Cum. |
|---|---|---|---|
| Other | 2805 | 93.50 | 93.50 |
| Unemployed | 195 | 6.50 | 100.00 |

Panel H: State of Residence

| | Freq. | Percent | Cum. |
|---|---|---|---|
| Alabama | 39 | 1.30 | 1.30 |
| Alaska | 7 | 0.23 | 1.53 |
| Arizona | 81 | 2.70 | 4.23 |
| Arkansas | 44 | 1.47 | 5.70 |
| California | 260 | 8.67 | 14.37 |
| Colorado | 44 | 1.47 | 15.83 |
| Connecticut | 31 | 1.03 | 16.87 |
| Delaware | 14 | 0.47 | 17.33 |
| District of Columbia | 8 | 0.27 | 17.60 |
| Florida | 224 | 7.47 | 25.07 |
| Georgia | 101 | 3.37 | 28.43 |
| Hawaii | 12 | 0.40 | 28.83 |
| Idaho | 20 | 0.67 | 29.50 |
| Illinois | 116 | 3.87 | 33.37 |
| Indiana | 62 | 2.07 | 35.43 |
| Iowa | 29 | 0.97 | 36.40 |
| Kansas | 16 | 0.53 | 36.93 |
| Kentucky | 43 | 1.43 | 38.37 |
| Louisiana | 41 | 1.37 | 39.73 |
| Maine | 14 | 0.47 | 40.20 |
| Maryland | 44 | 1.47 | 41.67 |
| Massachusetts | 57 | 1.90 | 43.57 |
| Michigan | 111 | 3.70 | 47.27 |
| Minnesota | 45 | 1.50 | 48.77 |
| Mississippi | 28 | 0.93 | 49.70 |
| Missouri | 67 | 2.23 | 51.93 |
| Montana | 15 | 0.50 | 52.43 |
| Nebraska | 13 | 0.43 | 52.87 |
| Nevada | 45 | 1.50 | 54.37 |

| | | | |
|---|---|---|---|
| New Hampshire | 24 | 0.80 | 55.17 |
| New Jersey | 67 | 2.23 | 57.40 |
| New Mexico | 30 | 1.00 | 58.40 |
| New York | 175 | 5.83 | 64.23 |
| North Carolina | 89 | 2.97 | 67.20 |
| North Dakota | 8 | 0.27 | 67.47 |
| Ohio | 111 | 3.70 | 71.17 |
| Oklahoma | 27 | 0.90 | 72.07 |
| Oregon | 59 | 1.97 | 74.03 |
| Pennsylvania | 178 | 5.93 | 79.97 |
| Rhode Island | 8 | 0.27 | 80.23 |
| South Carolina | 47 | 1.57 | 81.80 |
| South Dakota | 10 | 0.33 | 82.13 |
| Tennessee | 52 | 1.73 | 83.87 |
| Texas | 185 | 6.17 | 90.03 |
| Utah | 29 | 0.97 | 91.00 |
| Vermont | 10 | 0.33 | 91.33 |
| Virginia | 99 | 3.30 | 94.63 |
| Washington | 72 | 2.40 | 97.03 |
| West Virginia | 26 | 0.87 | 97.90 |
| Wisconsin | 60 | 2.00 | 99.90 |
| Wyoming | 3 | 0.10 | 100.00 |

Panel I: Urban-Rural Continuum Code

| Rural Code | Freq. | Percent | Cum. |
|---|---|---|---|
| Metro (1 million+) | 1534 | 51.44 | 51.44 |
| Metro (250,000 – 1 million) | 703 | 23.57 | 75.02 |
| Metro (> 250,000) | 308 | 10.33 | 85.35 |
| Nonmetro, (20,000+, metro adjacent) | 131 | 4.39 | 89.74 |
| Nonmetro, (20,000+, not metro adjacent) | 57 | 1.91 | 91.65 |
| Nonmetro, (> 20,000, metro adjacent) | 133 | 4.46 | 96.11 |
| Nonmetro (> 20,000, not metro adjacent) | 72 | 2.41 | 98.52 |
| Rural (metro adjacent.) | 18 | 0.60 | 99.13 |
| Rural (nonmetro adjacent) | 26 | 0.87 | 100.00 |

Panel J: COVID-19 Intensity

| Variable | Freq. | Mean | SD | Min. | Max. |
|---|---|---|---|---|---|
| Growth in Cases | 25968 | 1862.163 | 4151.116 | -306 | 32414 |
| Growth in Cases per 1000 residents | 25968 | 1.425 | 1.744 | -7.642 | 30.594 |
| Growth in Deaths | 25968 | 55.668 | 160.103 | -19 | 2005 |
| Growth in Deaths per 1000 residents | 25968 | .038 | .079 | -.257 | 1.042 |

*Note*: Data are from https://github.com/CSSEGISandData/COVID-19 (accessed October 6, 2021). For each wave, we calculate the growth in cases as $Cases_t - Cases_{t-14}$, with identical calculations for Deaths, Cases per 1000 residents, and Deaths per 1000 residents and $t$ = 3/20/2020 (Wave 1), 4/20/2020 (Wave 2), 6/6/2020 (Wave 3), 8/4/2020 (Wave 4), 10/15/2020 (Wave 5), and 3/23/2021 (Wave 6).

## Time Varying Predictors

In Figure S1-Figure S3 below, we use time-varying measures of partisanship, ideology, and Trump support to re-estimate the model in Equation (2) in the main text.

**Figure S1: Ideology, Time-Varying Predictors**

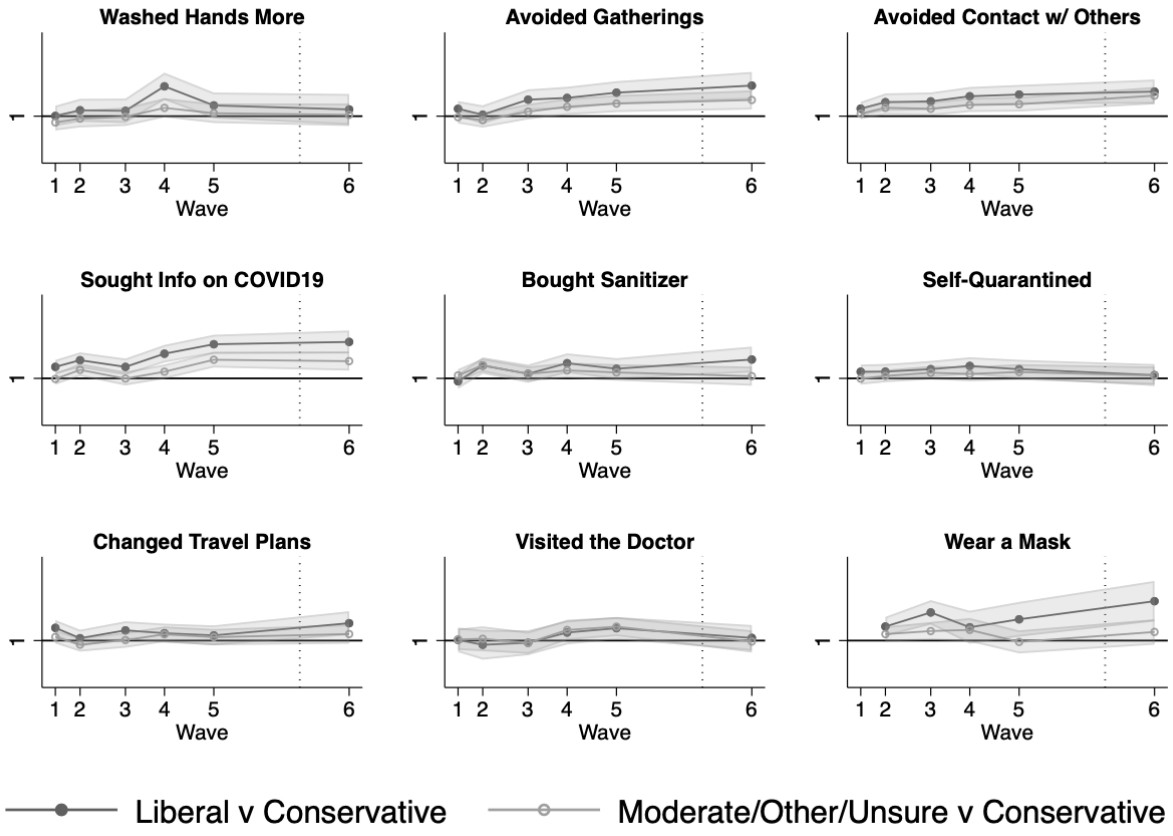


**Figure S2: Partisanship, Time-Varying Predictors**

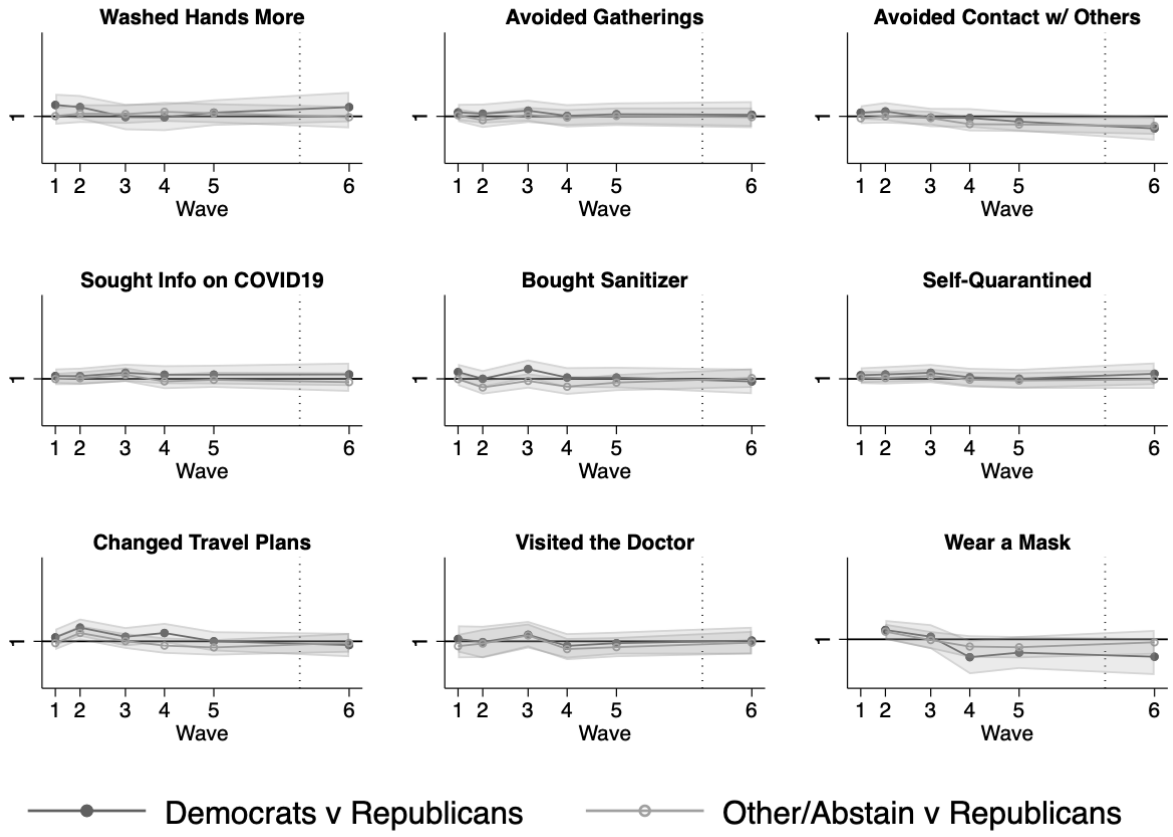
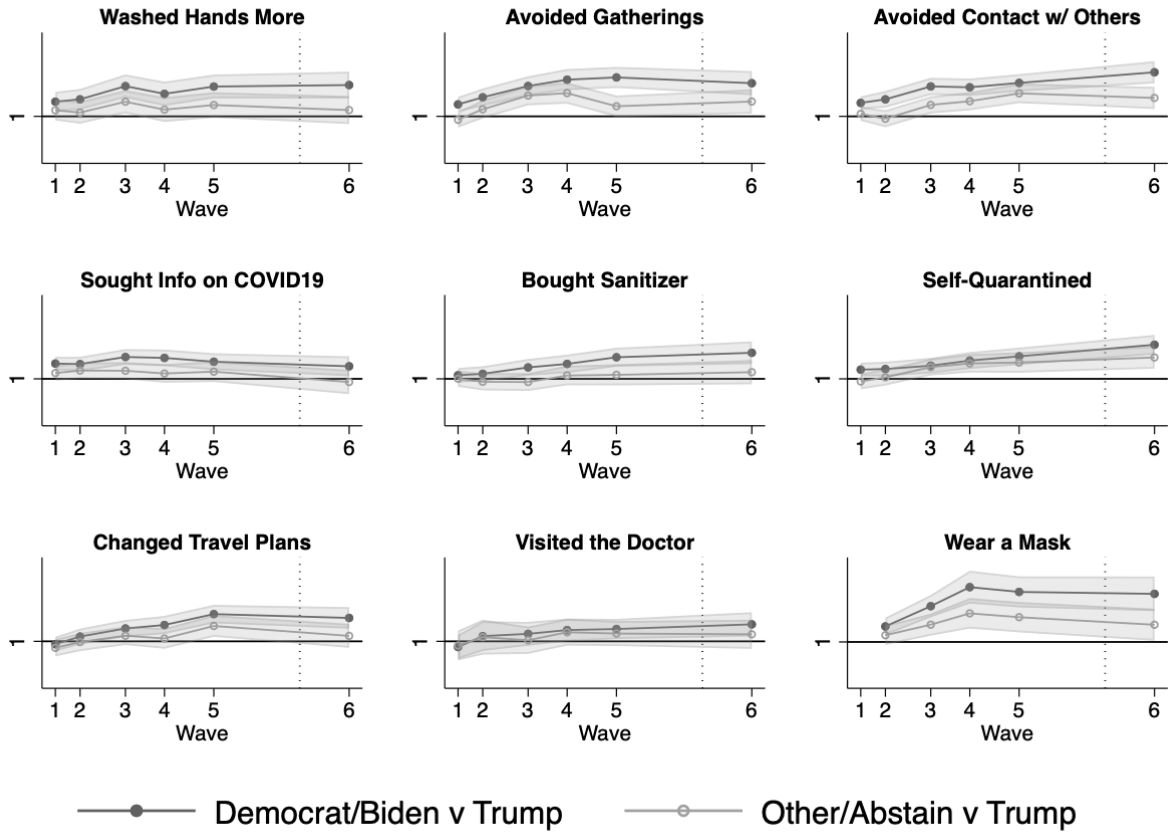


**Figure S3: Trumpism, Time-Varying Predictors**




## Strong Partisanship and Ideology

In Figure S4-Figure S6 below, we use modify our variables capturing partisanship and ideology to identify Strong Democrats and Strong Republicans, and Very Liberals and Very Conservatives. We then re-estimate the model in Equation (2) in the main text.

**Figure S4: Partisanship, Comparing Strong Partisans Only**

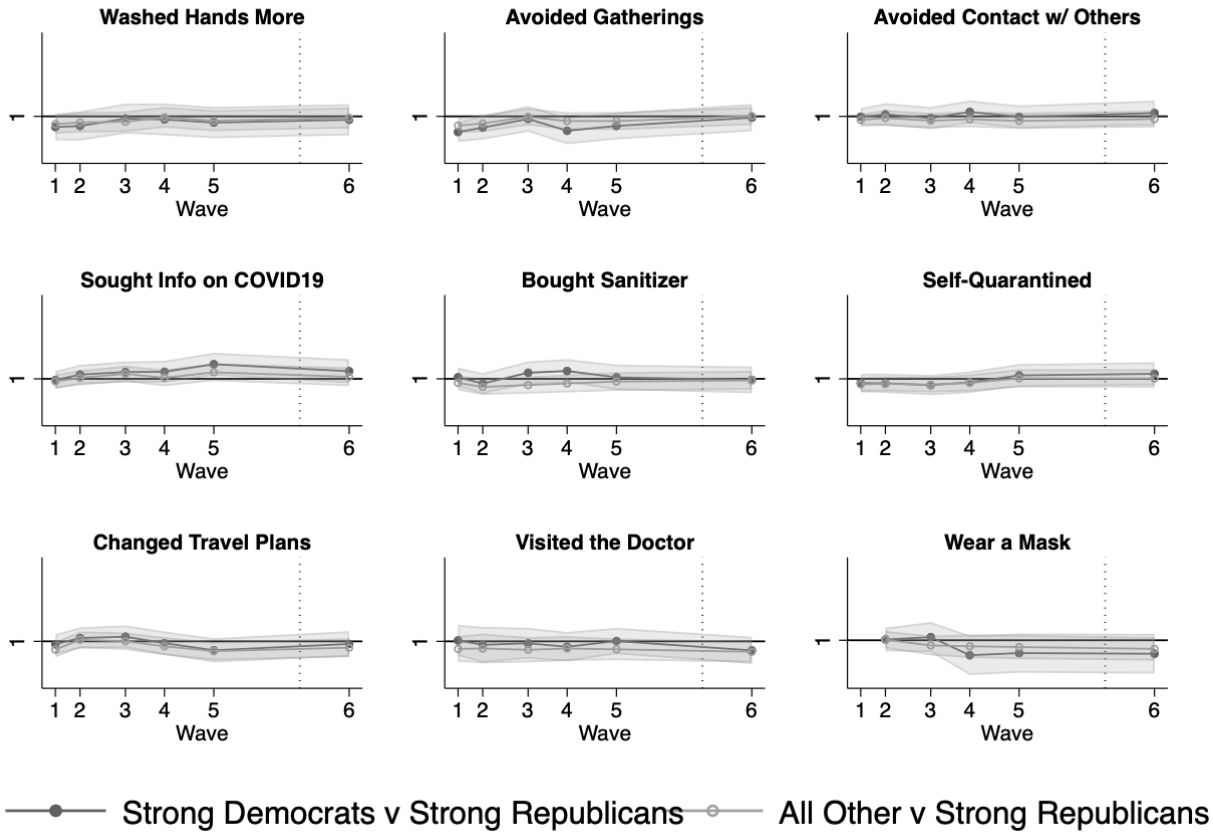


**Figure S5: Ideology, Comparing Strong Ideological Positions Only**

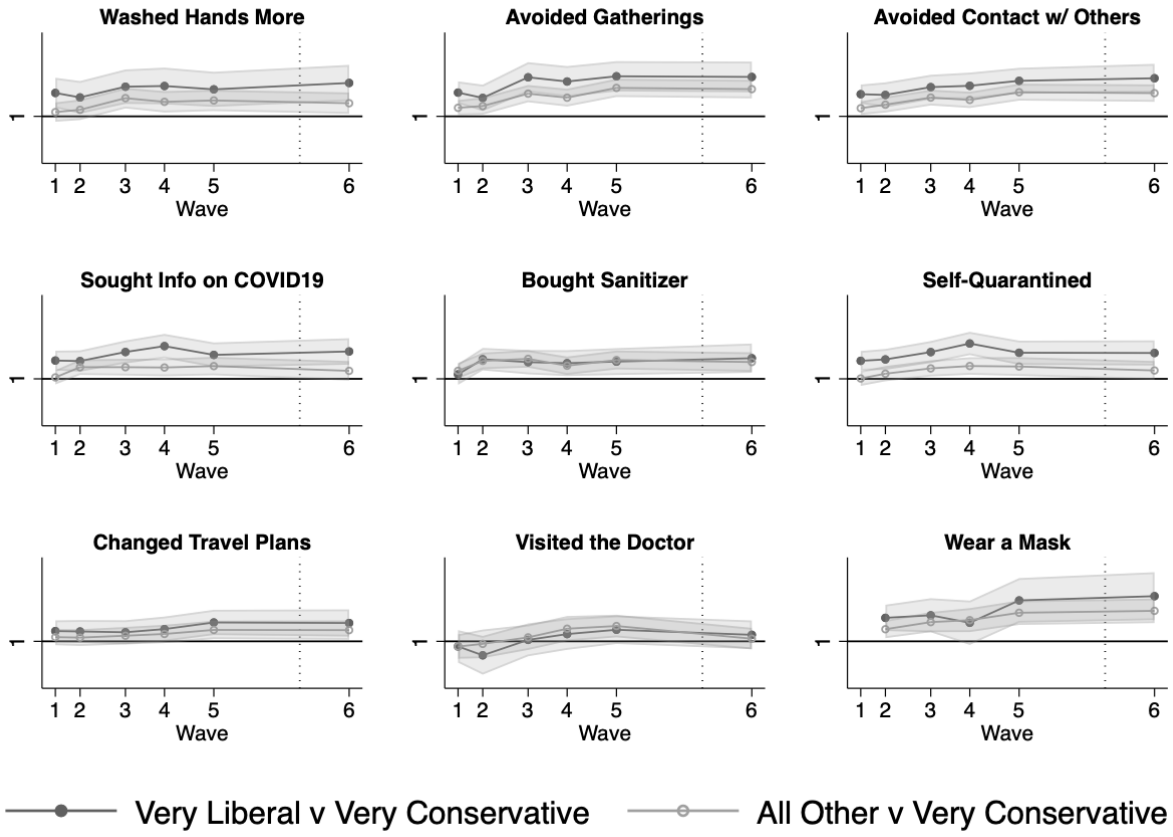
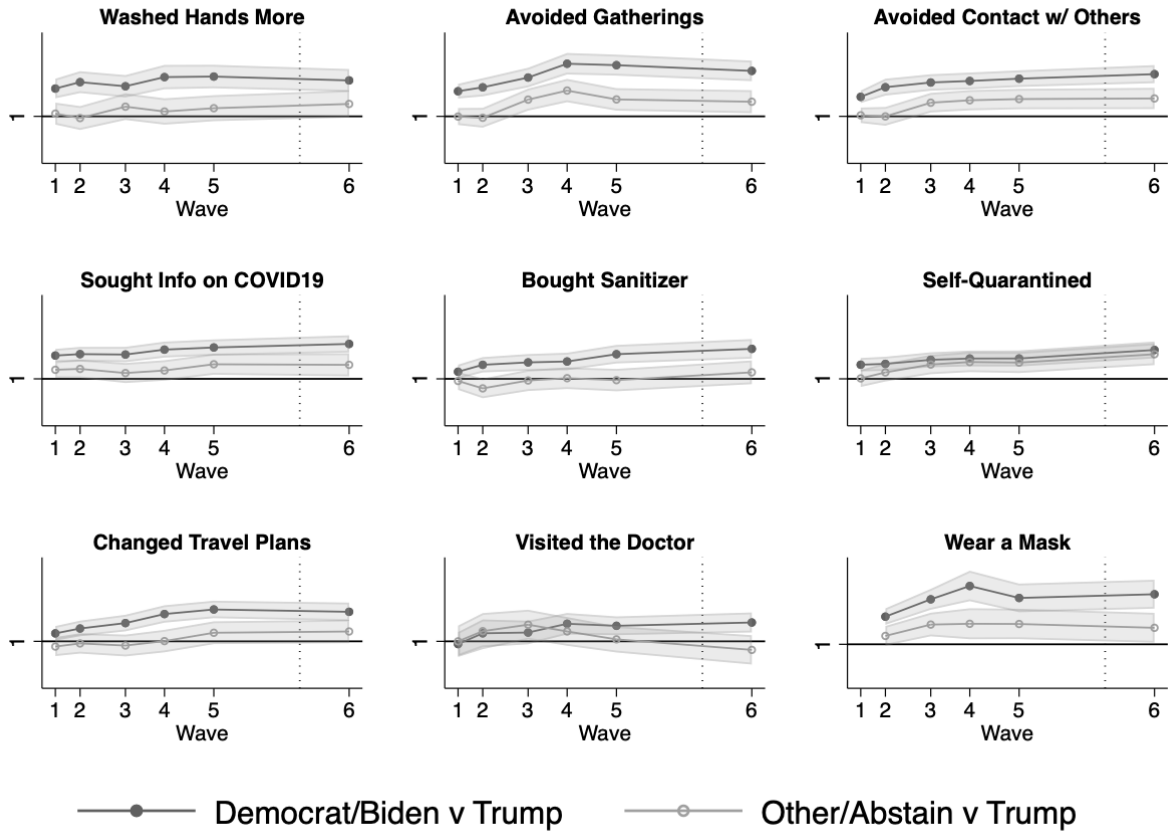


**Figure S6: Trumpism, Accounting for Strong Partisans and Ideological Positions**




## Adjusting for Attrition

In Figure S7-Figure S9 below, we restrict our sample to only include those respondents who completed each of the six waves of our survey (five waves in the case of Wear a Mask). We then re-estimate the model in Equation (2) in the main text, weighting each respondent using the weights for survey wave 6.

**Figure S7: Partisanship, Weighted Non-Attrition Sample**

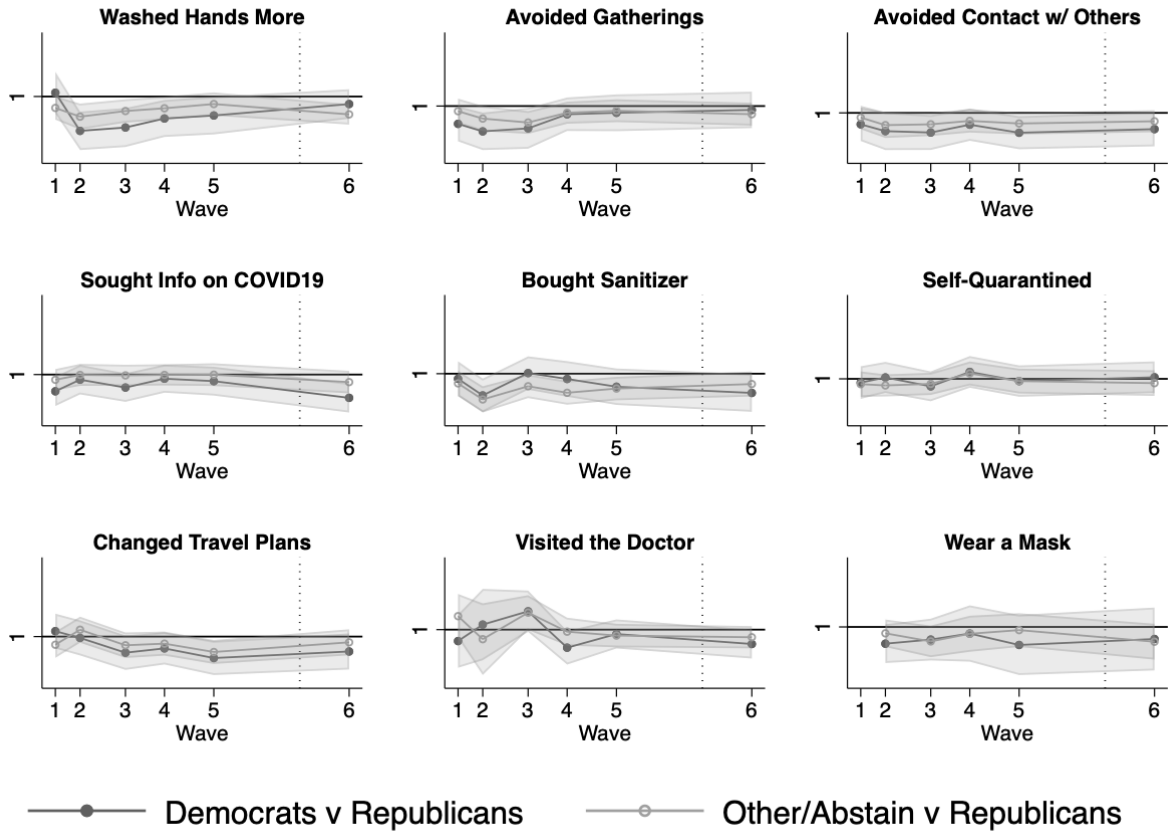


**Figure S8: Ideology, Weighted Non-Attrition Sample**

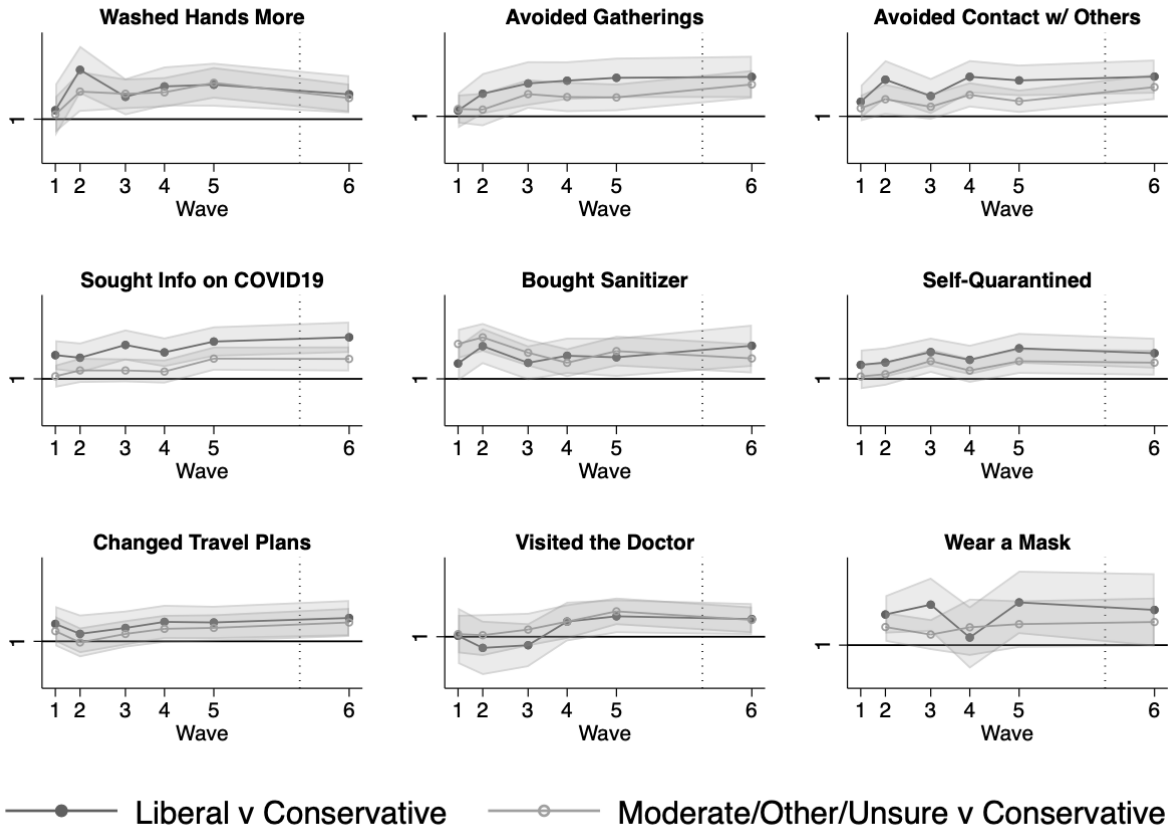
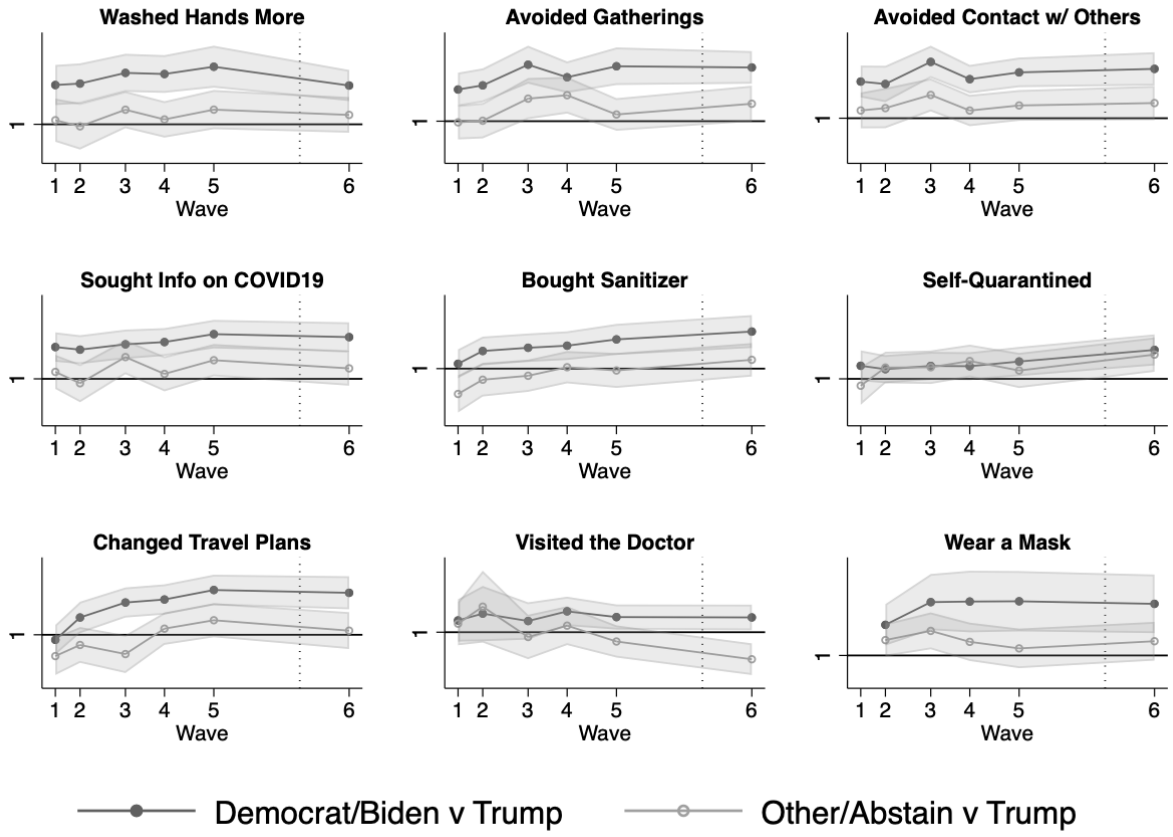


**Figure S9: Trumpism, Weighted Non-Attrition Sample**




## Dynamic Panel Analysis

In this final analysis, we full exploit the individual-level fixed effects in our model while also modeling dynamics using a lagged dependent variable. Letting $\phi_i$ and $\tau_t$ stand for individual and wave fixed effects, and $\mathbf{Z}_{it}$ capturing county-level COVID-19 intensity as described in the main text, we specify Equation (S1):

$$y_{it} = \boldsymbol{\beta}_{\boldsymbol{Party}}\mathbf{Party\ ID}_{it} + \boldsymbol{\beta}_{\boldsymbol{Ideology}}\mathbf{Ideology}_{it} + \boldsymbol{\beta}_{\boldsymbol{Trump}}\mathbf{Trump\ Support}_{it} + \boldsymbol{\delta}\mathbf{Z}_{it} + \phi_i + \tau_t + \lambda y_{it-1} + \varepsilon_{it} \quad \text{(S1)}$$

"Short-*T* long-*N*" panels such as this one are particularly vulnerable to Nickell bias in the context of a lagged dependent variable (Nickell 1981). We therefore follow the literature on dynamic

panel estimators by estimating our model using a system-GMM approach (Arellano and Bover 1995; Blundell and Bond 1998) in which we assume that partisanship, ideology, and Trumpism are each weakly exogenous and wave identifiers are predetermined, and use lags and differences as instruments to identify $\boldsymbol{\beta}$, $\boldsymbol{\delta}$, and $\lambda$.

Because these fixed effects models net out any time-invariant covariates, we lose substantial statistical power because most of our respondents' partisanship, ideological self-placement, and support for President Trump do not change over the course of the six waves. For this reason, we replace our individual dependent variables in this analysis with a composite dependent variable which we create four different ways. The first, *Index*, is the simple count of how many of the eight health behaviors from Table S1 the respondent reports having done in each survey wave. The second, *Principal Component*, is the individual level score predicted from the first principal component of these eight indicators. The last two were created using a two-parameter item response model (Birnbaum 1968): *IRT* is the underlying score pooling all observations across individuals together, and *Grouped IRT* is the underlying score allowing for grouped loadings by wave. We display the results in Table S2 (estimates for the $\boldsymbol{\delta}$ terms are available upon request).

**Table S2: Dynamic Panel Analysis**

| | *Index* | *Principal Component* | *IRT* | *Grouped IRT* |
|---|---|---|---|---|
| *Trump Supporter (reference category)* | -- | -- | -- | -- |
| *Democrat/Biden* | 0.333* | 0.276* | 0.166** | 0.283*** |
| | (0.164) | (0.126) | (0.061) | (0.047) |
| *Other/Abstain* | 0.139 | 0.134 | 0.051 | 0.127** |
| | (0.160) | (0.126) | (0.061) | (0.047) |
| *Conservative (reference category)* | -- | -- | -- | -- |
| *Liberal* | 0.259 | 0.188 | 0.107* | 0.198*** |

| | | | | |
|---|---|---|---|---|
| | (0.142) | (0.110) | (0.054) | (0.042) |
| *Moderate/Other* | 0.065 | 0.040 | 0.049 | 0.089* |
| | (0.122) | (0.095) | (0.045) | (0.035) |
| *Republican (reference category)* | -- | -- | -- | -- |
| *Democrat* | 0.173 | 0.116 | 0.097 | 0.255*** |
| | (0.217) | (0.167) | (0.080) | (0.062) |
| *Other* | 0.068 | 0.048 | 0.031 | 0.097* |
| | (0.170) | (0.133) | (0.062) | (0.049) |
| *N* | 9288 | 9288 | 9626 | 9626 |

Robust standard errors in parentheses. * p < .05. ** p < .01. *** p < .001.

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