How Local Partisan Context Conditions Pro-Social Behaviors: Mask-Wearing During COVID-19*

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Abstract

Does local partisan context influence the adoption of pro-social behavior? Using a nationwide survey of 60,000 adults and geographic data on over 180 million registered voters, we investigate whether neighborhood partisan composition affects a publicly observable and politicized behavior: wearing a mask. We find that Republicans are less likely to comply with mask-wearing as the share of Republicans in their ZIP Codes increases. Democratic mask-wearing, however, is unaffected by local partisan context. Consequentially, the partisan gap in mask-wearing is largest in Republican neighborhoods, and less apparent in Democratic areas. These effects are distinct from other contextual effects such as variations in neighborhood race, income, or education. Additionally, partisan context does not influence unobservable public health recommendations like COVID-19 vaccination, or non-politicized behaviors like flu vaccination, suggesting that differences in mask-wearing reflect the publicly observable and politicized nature of the behavior instead of underlying differences in dispositions toward medical care.

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Introduction

Since the beginning of the COVID-19 crisis, public health experts urged a series of behaviors to slow the spread of the disease, including social-distancing and wearing masks in public. Observers soon noticed persistent partisan and geographic divides in the adoption of these behaviors, with Republicans less likely to adopt the behaviors than Democrats and Republican-leaning localities exhibiting lower rates of the behaviors than Democrat-leaning localities.[1]

What is the source of these differences in mass behavior? The differences in behavior were accompanied by the politicization of the issues by elites, as Republican governors were generally slower to endorse mask-mandates, business closures, and other public health measures relative to Democrats, and as the Republican president urged residents of states with Democratic governors to "liberate" their states. Many prominent Republican politicians displayed reluctance or outright hostility toward mask-wearing (Grossman et al., 2020; Green et al., 2020) and some local Republican politicians openly defied state-wide public health orders by stating their intentions not to enforce them. Over one year into the pandemic and before the Centers for Disease Control relaxed mask requirements, 17 U.S. states were without mask mandates, all but one of them with Republican governors at the helm, and there was significant variation in mask-wearing across red and blue states.[2]

With the differences in messaging across partisanship by political leaders, the well-documented influence of political leaders on voters who share their partisan identity (Zaller, 1992; Lenz, 2013) is an obvious potential source of these mass partisan differences. As such, geographic divides in partisan behavior might simply be a reflection of the partisan composition of a locality. But, in addition to influence by elites, citizens are also influenced by other citizens. Do individual-level partisan orientations interact with local political context to influence pro-social behavior when such behavior is

[1]See for example: `https://civiqs.com/results/coronavirus_concern?uncertainty=true&annotations=true&zoomIn=true.`

[2]See https://www.nytimes.com/interactive/2020/us/states-reopen-map-coronavirus.html for data on mandates and restrictions.

publicly observable by neighbors? In other words, does the potential of a Republican or Democrat adopting pro-social public health behaviors depend on the presence of other Republicans or Democrats in their neighborhood? And is the influence of neighbors similar across both parties or are Republicans or Democrats more swayed than the other by the behavior of their neighbors? If individual pro-social behaviors are influenced by the behavior of neighbors, then differences in behavior across place do not merely reflect the composition of a place, but rather that contextual effects are exacerbating geographic disparities in public health behaviors. Understanding these effects may be important in understanding how to mitigate the spread of COVID-19 and other infectious disease, especially in communities where vaccination rates are low; and will also shed light on the role of social influence in shaping the adoption of pro-social behaviors, especially when those behaviors have become politicized.

Using large-scale survey data and newly available low-level data on the partisan-composition of geographic areas, we examine whether willingness to adopt COVID-19 mitigation behaviors is conditioned by respondents' partisanship and their partisan context. We find that Republicans, but not Democrats, are influenced by partisan context when deciding to wear a mask. As the share of Republicans in a ZIP Code increases, Republicans become less likely to wear masks. Democrats, on the other hand, report high levels of mask wearing regardless of ZIP Code party-composition. Thus, the partisan gap in mask-wearing is less apparent in Democratic areas, and largest in Republican neighborhoods. This effect of neighborhood partisan composition is distinct from other contextual variables — particularly the racial, income, or education composition of an area — that may confound the relationship between mask-wearing and partisan context. We find no significant relationship between partisan context and willingness to take vaccines, whether for COVID-19 or the seasonal flu, suggesting that the heterogeneity in wearing masks that is associated with local partisan context does not generalize to medical or public health behaviors not easily observed by others. Notably, while both mask-wearing and vaccine-uptake have been politicized, mask-wearing is a visible behavior, subject to social pressure in a way that vaccine-uptake is

not.

The influence of neighbors on a pro-social, but politicized behavior follows from a long-line of scholarship. Individual behavior can be influenced by social context (c.f., Enos (2017); Sands (2017)) and, people receive influential cues from others in their environment, including cues about behaviors that are specifically pro-social in nature, such as not littering (Cialdini, Reno, and Kallgren, 1990) and preventing crime (Wilson, 1987; Case and Katz, 1991; Keizer, Lindenberg, and Steg, 2008). This influence has been shown to extend to political behaviors and to be influenced by political contexts, including the partisanship of neighbors (Perez-Truglia, 2017; Perez-Truglia and Cruces, 2017; Brown, 2021). For example, Perez-Truglia and Cruces (2017) demonstrated that people are more likely to make political donations when they share the partisanship of their neighbors and know their neighbors have also donated. Others have used lab-experiments to connect group-based context to explicitly pro-social behaviors, including sharing in public-goods games (Enos and Gidron, 2014), extending the general proposition by Putnam (2007) and others (Dinesen and Sønderskov, 2015) that homogeneous social contexts and shared identities enable high levels of social trust that are likely to transmit social norms.

The influence of homogeneous context on behavioral norms can be transmitted through several mechanisms, including common knowledge or social pressure. Recent research has shown that common knowledge beliefs about social norms (what a person believes others believe to be acceptable) influence individual beliefs about politicized topics and that the most influential beliefs are those arising from people with shared identities and close geographic proximity. For example, Bursztyn, González, and Yanagizawa-Drott (2018) demonstrated that men in Saudi Arabia update their beliefs about gender norms when given information about the beliefs of other men in their neighborhood. Second, a large body of research demonstrates that people will change their behavior when they risk being seen as norm-violators or when there is a threat of social pressure, especially from members of their in-group and when the behavior is public (Asch, 1955; Argyle, 1957; Gerber, Green, and Larimer, 2008; White, Laird,

and Allen, 2014; Perez-Truglia and Cruces, 2017). Notable for the outcomes examined in this paper, a wide variety of behaviors related to health, ranging from smoking to H.I.V. prevention, are also influenced by social norms (Albarracín, Kumkale, and Johnson, 2004; Latkin et al., 2003; DeJong and Hingson, 1998), especially in networks structured by geography and common identity, such as ethnicity and occupation (Emmons et al., 2007; Moran et al., 2013; Sriram et al., 2018; Latkin and Knowlton, 2015; Etcheverry and Agnew, 2008). And consistent with partisan networks transmitting social norms that shape such behaviors, Wu and Huber (2021) show that differences in social distancing behavior between Democrats and Republicans can be explained by self-reported common knowledge beliefs about social norms, such as whether other people in their community are social distancing and whether people would disapprove if they did not social distance.

Data

For this investigation, we combine survey data from a 60,000-person project with geographically granular voter registration data from 180 million Americans and supplement this with data from the U.S. Census and COVID-19 fatality counts. These data allow us to observe people's mask-wearing as a function of local partisan make-up of ZIP Codes, while accounting for other individual-level attributes measured in the survey and other ZIP Code-relevant attributes.

The survey data come from the UCLA COVID-19 Health and Politics Project, a nationwide cross-sectional survey representative of the U.S. adult population[3] consisting of four cross-sectional surveys of approximately 15,000 people each in 2020.[4] We combine the four waves of this project to construct a dataset of over 60,000 interviews. All interviews were conducted online with sample provided by the market research firm, LUCID. Quotas across nine categories were set and managed by project staff at UCLA,

[3]The project is a collaboration between UCLA researchers in the social sciences, the David Geffen School of Medicine at UCLA, and Harvard Medical School.

[4]The four survey waves were conducted between May 11-24, 2020; July 9-22, 2020; October 1-17, 2020; and December 4-16, 2020.

who also constructed the post-stratification weights to make the data representative of the U.S. adult population.[5] Our outcomes come from four survey questions: the frequency with which respondents report "always" wearing masks when going out in public, reports of their likelihood of getting a COVID-19 vaccine when one is made available to them, and respondents' reports of whether they were vaccinated for the flu in the 2018-2019 flu season and whether they intend to vaccinate against the flu in the 2019-2020 season. We also use the survey data for individual level controls that may influence mitigation uptake, including age, race, gender, income, ideology, and education.

Data on the local political context of people's neighborhoods come in the form of individual measures of the partisan composition of each respondent's ZIP Code. The measure is derived by using data from the complete list of registered voters, including their exact residential address and registration information, in the United States as of summer 2018 and geo-coding voters to place them in a locality (Brown and Enos, 2021). To construct local measures of partisan context, the partisanship of each voter is measured through party registration where available, and for voters without party registration partisanship is imputed based on the voter's characteristics and precinct-level presidential vote data.[6] This allows for the measure to capture the partisanship of all voters in a given geographic area, which is important when trying to describe the presence of in- or out-party neighbors in a respondent's daily environment and is difficult to do when relying on aggregate vote outcomes that do not include counts of episodic non-voters. We calculate the proportions of Democrats and Republican in each ZIP Code, the smallest geographic unit available in our survey data, and a unit similar in size, or even a little smaller, to a Census Tract, the unit commonly used to represent a neighborhood in social science research.[7] Figure A1 in the Appendix shows the distribution of partisan exposure by ZIP Code for the survey sample, which

[5] A detailed description of the survey methodology, including representativeness of samples constructed using this approach, can be found in Tausanovitch et al 2021.

[6] See Brown and Enos (2021) for full details on these data and the imputation process.

[7] The median ZIP Code in the United States had $1,460$ registered voters as of 2018 and the the median Census Tract had $2,275$ registered voters.

is similar to the distribution for the nationwide voting population.

Lastly, we add to these data ZIP Code level co-variates from the U.S. Census, in addition to data on county COVID-19 deaths (using data reported by state and local governments and aggregated by the *New York Times*).[8]

We restrict our sample to self-reported Democrats and Republicans so the interpretation of coefficients on being a Republican indicate the effects of being a Republican compared to being a Democrat. We operationalize local partisan context as the share of Republicans in the respondent's ZIP Code as measured by the percent Republican of all registered voters.[9]

First we look in the data to establish whether we see partisan variation in the uptake of pro-social mitigation behaviors and whether the partisan uptake varies by partisan context. Figure 1 displays variation in mask wearing and vaccine uptake by partisanship and other covariates that we might expect to be related to these behaviors. The columns display the share of the population reporting that they always wear a mask when going outside (left), the share planning to get a COVID-19 vaccine (center), and the share reporting they got a flu vaccine in 2020 (right). The rows display the incidence of these by party identification (top), the COVID-19 death rate in the respondent's county of residence (middle), and by the respondent's self-reported number of comorbidities with COVID-19 (bottom).

The incidence rate of mask-wearing goes up over time for all groups of people, but the data make clear that the divide in mask-wearing between Republicans and Democrats is larger than the divide between individuals with low and high risk for dying from COVID-19; and becomes larger than the gap between citizens living in areas with high and low cumulative deaths from the disease. The trends in mask-wearing and COVID-vaccine uptake are consistent with the politicized nature of the

[8]See https://github.com/nytimes/covid-19-data. To calculate deaths per 1,000 people at the state level we use 2019 estimates from the American Community Survey (ACS). For county-level populations we rely on the 2014 to 2018 ACS.

[9]Since partisanship in the partisan composition data is imputed for voters not registered to a major political party, over 90% of voters are classified as having a partisan lean, rather than being classified as true independents. This percentage is consistent with survey data on partisan preferences of unaffiliated voters (Magleby, Nelson, and Westlye, 2011).

behaviors. Not only is the gap between partisans larger than the gap for comorbidities or local deaths, but these differences increased over differences in May 2020, which is consistent with previous research indicating that elite-level differences arose early in the pandemic and that polarization of public opinion around COVID-19 began before this data collection (Sides, Tausanovitch, and Vavreck, 2020). On the other hand, levels in mask-wearing by local COVID-19 deaths or individual comorbities remain largely stable overtime and maybe even converge.

Having established that there is a relationship between individual partisanship and COVID-19 mitigation behaviors and that this relationship appears stronger than the relationship between these behaviors and other likely drivers, we ask if these differences in the behavior of partisans are amplified by the composition of neighborhoods. To see if this pattern emerges in our data, Figure 2 displays the relationship in the survey data between the share of Republican registered voters in a respondent's ZIP Code and the average incidence of mask wearing and willingness to take the COVID-19 vaccine in that ZIP Code. For both Democrats and Republicans, an increasing percent of Republicans in their ZIP Codes is associated with a decrease in the probability of wearing a mask. Furthermore, for Republicans, the percent Republican in the ZIP Code is also associated with a decrease in COVID-19 vaccine uptake. Notably, the relationship is strongest for mask-wearing.

The association between partisanship, local partisan context, and mask wearing is dramatic — particularly for Republicans: in the neighborhoods with very few Republicans, the behavior of Republicans and Democrats are nearly indistinguishable. As the percent of Republicans in a neighborhood increases, however, Republicans and Democrats diverge—a Republican in a 75% Republican ZIP Code is half as likely to wear a mask as a Republican in a 25% Republican ZIP Code. This Republican in a largely Republican ZIP Code is also half as likely to wear a mask as a Democrat in a ZIP Code that has 75% Republicans — illustrating the difference in responsiveness to rising levels of Republicans in a neighborhood for Democrats who live there as compared to Republicans who live there.

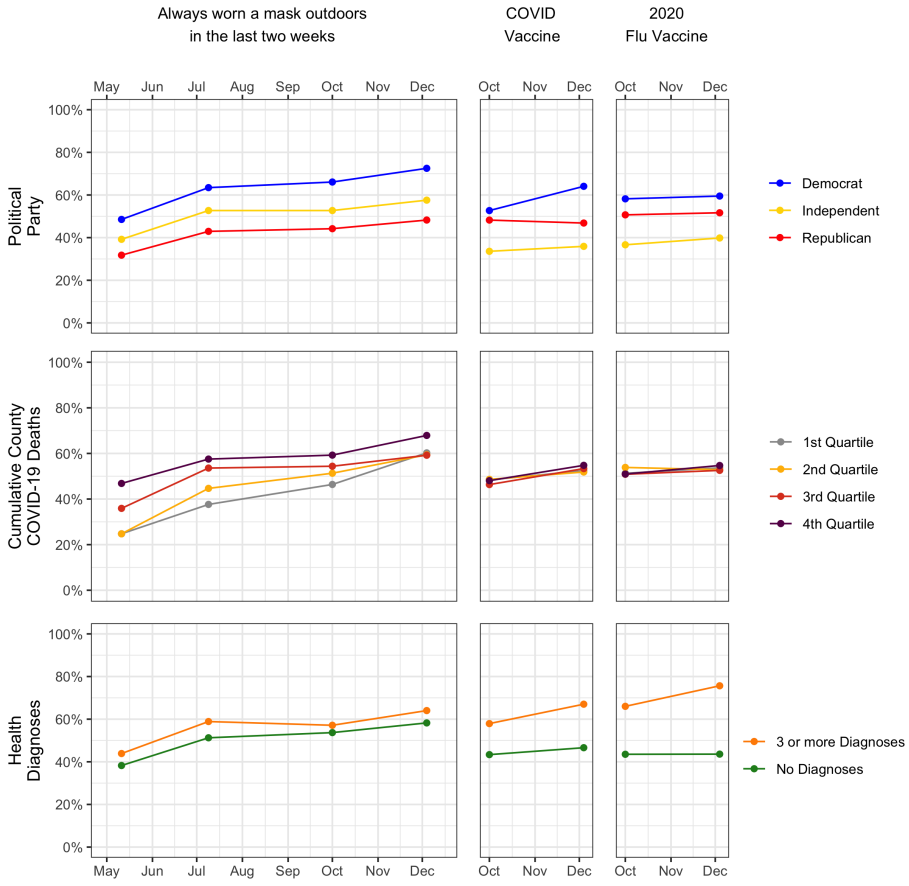

Figure 1: Percent Engaging in Preventative Health Behaviors by Party, County COVID-19 Deaths, and Individual Health Diagnose

Figure plots the rates of mask-wearing (left column), COVID vaccination (middle column) and 2020 flu vaccination (right column) across survey waves. Plots in the top row plot rates of public health behaviors separately by political party, middle row is plotted separately by quartiles of cumulative county COVID-10 fatalities, and the plots in the bottom row are broken out by survey respondents' at-risk health conditions.

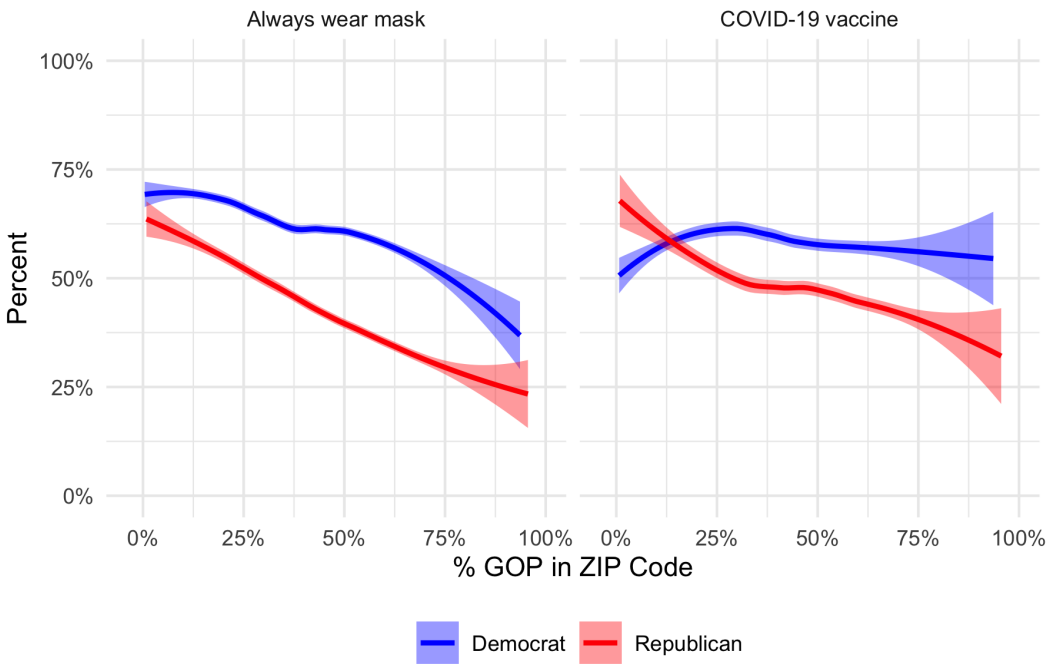

Figure 2: Association between ZIP Code Partisan Context and Reported Rates of Mask Wearing and Vaccine Uptake, by Partisanship

Lines plot the LOESS fitted line for rates of mask-wearing (left panel) and COVID-19 vaccination (right panel) across ZIP Code percent Republican composition, separately for Democrat (blue lines) and Republican (red lines) survey respondents.

Empirical Strategy and Results

An obvious potential explanation for the relationship displayed in Figure 2 is that partisans with certain attitudes select into areas with like-partisans. This would mean that the pattern is not because of the influence of neighbors, but rather selection on geography. To separate the influence of neighbors from selection, we employ two estimation strategies. First, we estimate regression models with public health behavior as a function of ZIP Code partisan composition, using county fixed effects and controls for individual and ZIP Code characteristics. Comparing voters living in the same county but in different ZIP Codes allows us to account for the confounding influence of other observable characteristics and all unobservable differences across counties. With these models we estimate the effect of partisan context for both Democrats and Republicans. Second, we conduct an even more robust test of partisan differences by using ZIP Code fixed effects to test for differences between Democrats and Republicans living in the same ZIP Code.

Crucially, we also apply the same empirical tests to the vaccine outcome variables: self-reported flu vaccinations in both the 2019 flu season (prior to COVID-19) and the 2020 season (during COVID-19), and the COVID-19 vaccine. Previous research has demonstrated that medical decisions, even those made by medical doctors, are handled differently by Democrats and Republicans depending on whether they involve a decision that has become politicized (Hersh and Goldenberg, 2016). The flu vaccine has not been politicized in the same manner as COVID-19 related behaviors, so these outcomes serve as a test of whether *all* medical decisions differ in response to local partisan context or whether there is something particular about the responses to COVID-19. Inclusion of the COVID-19 vaccine also tests whether public and private behaviors, even when politicized, are affected differently by neighborhood context.

In all models, we all control for individual-level factors that may confound the relationship between partisanship, partisan context, and pro-social behaviors — these are age, race, gender, education, recent health diagnoses, and household income[10] and

[10]Age is entered in years; race as binary indicators for white, Hispanic, Asian/Pacific Islander, and Some

survey wave fixed effects to account for any differences across survey waves.

Models with county fixed-effects account for any unobservable differences across counties, so we are essentially comparing voters of the same partisanship, who live in the same county, and are similar along other individual and contextual variables, but who live in ZIP Codes with differing levels of partisan composition. In this approach, we interact voter partisanship with ZIP Code party composition as a test of whether the effect of ZIP Code partisanship differs for Democrats and Republicans. To better isolate this interactive effect, we also interact partisanship with each of the other ZIP Code contextual variables — percent white, percent college graduates, and median household income — to ensure any differential effects by partisanship are not actually differential responses to other contextual factors that covary with ZIP Code partisanship (Blackwell and Olson, 2021). These models include controls for ZIP Code level percent college educated, median household income, population density change in the last two years, and percent white.[11]

For each of the four outcomes (mask-wearing, COVID-19 vaccine uptake, 2020 flu vaccine uptake, and 2019 flu vaccine reports), we estimate regressions of the form:

$$Y_i = \alpha_c + \eta_w + \gamma \text{Republican}_i + \theta[\text{Share GOP}]_z + \tau(\text{Republican}_i * [\text{Share GOP}]_z) + \boldsymbol{\delta}\mathbf{W}_z + \boldsymbol{\lambda}(\text{Republican}_i * \mathbf{W}_z) + \omega \text{Deaths}_s + \boldsymbol{\beta}\mathbf{X}_i + \epsilon_{iz} \quad (1)$$

where α_c is the county fixed effect, η_w is the survey wave fixed effect, $\mathbf{W}_z$ are the contextual covariates for ZIP Code z, $\mathbf{X}_i$ are the individual covariates for voter i, and ϵ_{iz} is the error term. θ represents the effect of ZIP Code proportion Republican on mask-wearing for Democrats, and τ represents the difference in the effect of ZIP Code

Other Race, with Black as the excluded category; household income as thousands of dollars with an indicator variable for missing data, gender as female with male as the missing category, education as high school or less or some college, with college graduate as the omitted category. Ideology was only recorded in wave four of the survey so it is included in models without wave fixed effects and is entered as indicators for five point scale from very liberal to very conservative, libertarian, or unsure of ideology; moderate is the excluded category. Comorbidities is the number from 0 to 6 of self-reported diagnoses with conditions related to death from COVID-19.

[11] County COVID-19 deaths are included as the log of the two-week change in COVID-19 deaths per 1,000 people prior to the respondent taking the survey.

Table 1: Within-County Models of Neighborhood Partisanship

	Always Wear Mask	COVID Vaccine	Flu Vaccine 2020	Flu Vaccine 2019
Share GOP	0.075 (0.062)	-0.120 (0.094)	-0.083 (0.094)	-0.069 (0.094)
Republican	-0.061 (0.028) *	-0.098 (0.038) **	-0.075 (0.038) *	-0.040 (0.039)
Republican * Share GOP	-0.244 (0.064) ***	0.012 (0.096)	0.047 (0.090)	-0.020 (0.094)
Republican * Share College and Above ('18 ZIP)	0.128 (0.073) +	-0.014 (0.108)	-0.074 (0.106)	-0.101 (0.109)
Republican * Median HH Income, Thousands ('19 ZIP)	-0.001 (0.000) +	0.001 (0.001)	0.000 (0.001)	0.001 (0.001)
Individual Controls	✓	✓	✓	✓
ZIP Code Controls	✓	✓	✓	✓
Survey Wave Fixed Effect	✓	✓	✓	✓
County Fixed Effect	✓	✓	✓	✓
N	49,626	25,119	25,137	25,152
R-Squared	0.208	0.257	0.257	0.246
Adj. R-Squared	0.164	0.182	0.181	0.170

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***

partisanship for Republicans compared to Democrats. Standard errors are clustered at the ZIP Code level.

Table 1 presents the coefficients of interest from each of these models, across all four public health outcomes. The coefficient for Zip Code Share GOP is not statistically distinguishable from zero, meaning that Democrats, accounting for other variables and comparing voters living in the same county, do not change their rate of mask-wearing in response to ZIP Codes partisan composition. Figure 3 plots the marginal effect of Share GOP separately for Democrats and Republicans. The effect for Republicans is negative and significant, meaning that Republicans wear masks less frequently when they live in Zip Codes with more Republicans. This disparity between Democrats and Republicans is reflected in the interaction coefficient between Republican partisanship and Zip Code Share GOP in the model, which is negative and significant. So while Republicans, net of other factors, wear masks less frequently than Democrats over all (as reflected by the negative and significant coefficient on Republican partisanship), this partisan gap is greater in more Republican areas because in these areas Republicans decrease their mask-wearing while Democrats continue to wear masks.

The models for COVID and flu vaccination do not return significant coefficients for Share GOP or the Democratic partisanship and Share GOP interaction, meaning that these outcomes are not responsive to partisan context for voters of either party. Even though the COVID-19 vaccine was politicized, intentions to vaccinate against COVID-

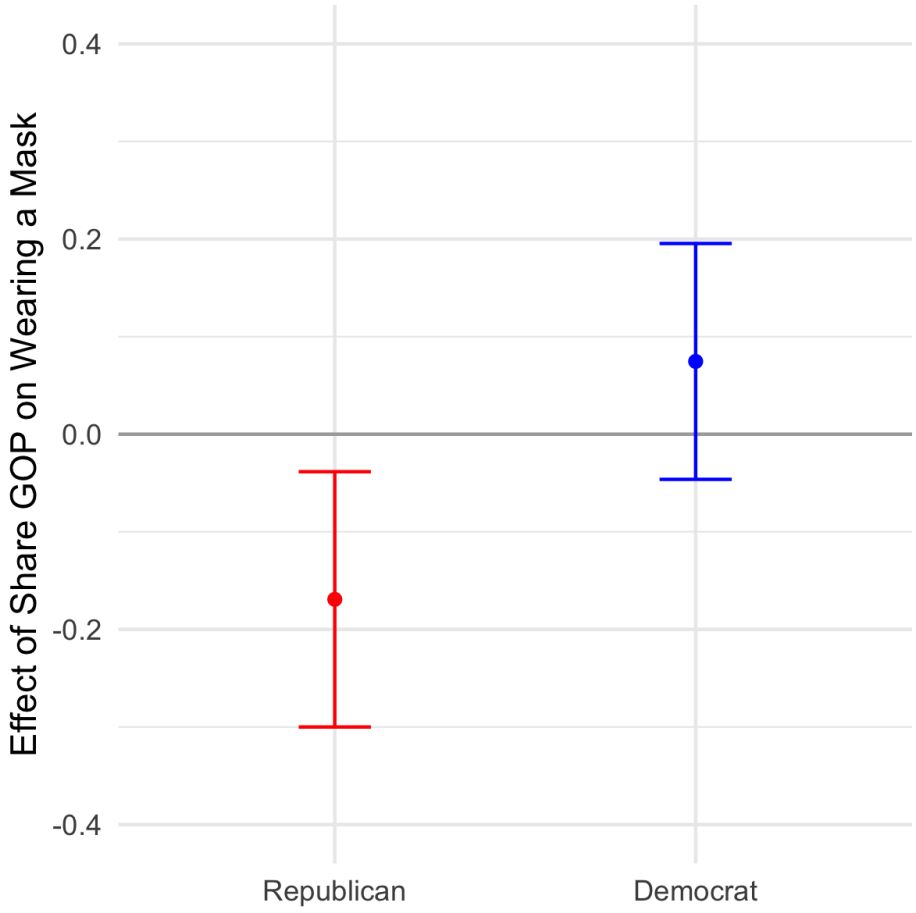

Figure 3: Effect of Share GOP by Party

Points represent the marginal effect of Share GOP for Republicans (red) and Democrats (blue). Bars represent 95% confidence intervals.

19 are similarly responsive to local partisan context as decisions about vaccination for the flu. For the vaccines, there is a partisan gap for these behaviors, as evidenced by the positive and statistically significant Democratic partisanship coefficients, but this difference in uptake between partisans is not context dependent, perhaps because the behavior is largely private and not subject to easily observable social pressure.

Notably, we do not see similar interactions with partisanship and other ZIP Code attributes, the share of college educated people living in the ZIP Code, the racial composition, or the income distribution, indicating that the patterns are not being driven by heterogeneous party-responses to other contextual factors in the neighborhood. Additionally, to account for the possibility that ideology is correlated with mask wearing and partisan context and is, therefore, confounding the relationship between context and mask wearing by controlling for individual-level ideology (very liberal to very conservative) in the one wave of survey where ideology was measured. The patterns we present survive this control and we present the results controlling for ideology in Appendix Tables A6 and A7.

Partisan Differences in Mask-Wearing within ZIP Codes

Next, we compare Democrats and Republicans living in the same ZIP Code using regression models with ZIP Code-level fixed effects. This allows us to more robustly test for differences in the effect of local partisan context by estimating whether out-partisans who have settled in the same area respond to partisan context at different rates. This approach accounts for any unobservable differences across the ZIP Codes in our dataset.

In the first estimation strategy, including fixed effects for counties rather than ZIP Codes allowed us to estimate the effect of partisan composition on public health behaviors for both Democrats and Republicans. In this second estimation strategy, we continue to interact the share of Republicans in a ZIP Code with each individual's party identification. However, as our measure of partisan context is at the ZIP Code level, the independent association between percent Republican and the public health

behavior is subsumed by the ZIP Code-level fixed effects. Thus, in these within-ZIP Code models we can only estimate whether Democrats and Republicans in the same ZIP Code respond differently to the share of Republicans in that ZIP Code. As with the within-county models, we interact individual partisanship with other ZIP code-level contextual factors. This design offers a rigorous test of how Democrats and Republicans respond to the same local partisan context by modeling the differential response to the share of Republicans in a ZIP Code for Democrats and Republicans living in the same ZIP Code, net of other individual and neighborhood-level factors.

We estimate a regression of the form:

$$Y_i = \alpha_z + \eta_w + \theta \text{Republican}_i + \tau \text{Republican}_i * [\text{Share GOP}]_z + \boldsymbol{\gamma} \text{Republican}_i * \mathbf{W}_z + \lambda \text{Deaths}_s + \boldsymbol{\beta} \mathbf{X}_i + \epsilon_{iz} \quad (2)$$

where α_z is the ZIP Code fixed effect. τ is the quantity of interest, the extent to which Republicans alter their mask wearing in response to ZIP Code partisanship in comparison to Democrats. If we cannot precisely estimate a coefficient on this interaction, it suggests partisans are responding at similar rates to partisan context — i.e. there is no difference beyond the average partisan difference. If, however, the coefficient on the interaction is negative, Republicans are increasingly less likely to engage in the reported behavior as the neighborhood becomes more Republican, relative to Democrats living in the same place. If the coefficient on the interaction is positive, Republicans are increasingly more likely to engage in the reported behavior as neighborhoods become more Republican relative to Democrats in the same neighborhoods. Standard errors are clustered at the ZIP Code level.

In Table 2, we display the results of the within-ZIP Code model represented in Equation 2. The coefficient on the interaction of party identification and the share of Republicans in the respondent's ZIP Code is significant and negative, meaning that the gap between the likelihood of a Democrat or a Republican wearing a mask grows as the share of Republicans in the neighborhood increases. These estimates are displayed

Table 2: Within-ZIP Code Models of Neighborhood Partisanship

	Always Wear Mask	COVID Vaccine	Flu Vaccine 2020	Flu Vaccine 2019
Republican	-0.068 (0.032) *	-0.050 (0.044)	-0.051 (0.045)	-0.072 (0.047)
Republican * Share GOP	-0.198 (0.074) **	0.000 (0.121)	-0.136 (0.111)	-0.013 (0.119)
Republican * Share White ('18 Zip)	-0.006 (0.049)	-0.191 (0.089) *	0.016 (0.076)	-0.015 (0.083)
Republican * Share College and Above ('18 ZIP)	0.174 (0.088) *	-0.136 (0.140)	-0.250 (0.133) +	-0.081 (0.140)
Republican * Median HH Income, Thousands ('19 ZIP)	-0.001 (0.000)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Individual Controls	✓	✓	✓	✓
Survey Wave Fixed Effect	✓	✓	✓	✓
ZIP Code Fixed Effect	✓	✓	✓	✓
N	49,626	25,119	25,137	25,152
R-Squared	0.508	0.650	0.641	0.640
Adj. R-Squared	0.318	0.396	0.381	0.379

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***
Full model: See Table A2 for individual controls and wave fixed effects

graphically in Figure 4. For every 10 percentage-point increase in the share of Republicans in a ZIP Code, the difference between Republicans' and Democrats' willingness to always wear a mask grows by 1.98 percentage points. Moving from a ZIP Code with 25 percent Republicans to one with 75 percent Republicans would increase the average difference between Democrats and Republicans in mask-wearing by almost 10 points. These results are consistent with the coefficients from the within-county model, which showed that Republican mask-wearing is responsive to context, but Democratic mask-wearing is not influenced by partisan composition. Note that the coefficient on the interaction in the within-ZIP Code model does not allow us to say anything about the absolute slopes of the lines for Democrats and Republicans, just that the Republican line decreases more dramatically than the line for Democrats.

Once again, we do not see similar interactions with partisanship and other ZIP Code attributes indicating that the patterns are not being driven by heterogeneous party-responses to other contextual factors in the neighborhood. In Tables A3–A5 in the Appendix, we further explore the relative power of local partisan networks by comparing the influence of local partisan demographics on mask wearing to other demographic factors: percent white, percent college educated, and percent wealthy. Substituting each of these variables for percent GOP in Equation 2 above, we find that none of these other contextual factors are as strongly related to mask wearing as is local

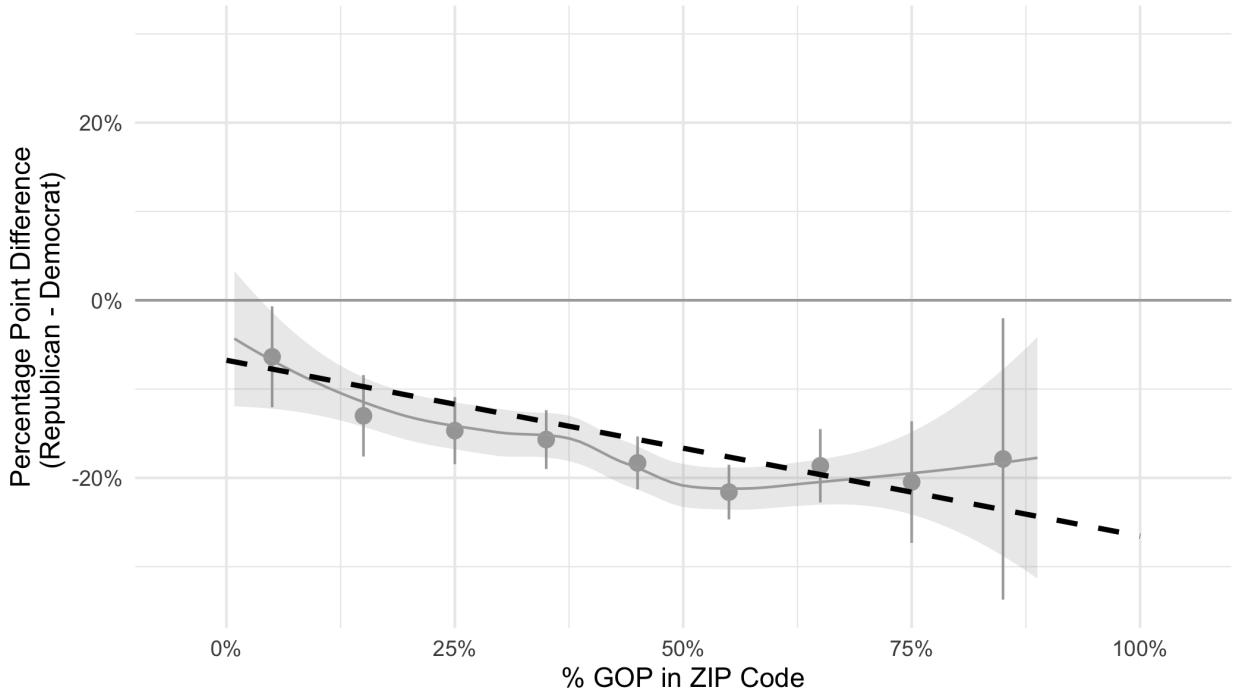

Figure 4: Partisan Gap in Mask-Wearing By ZIP Code Partisanship

Points plot the binned scatterplot of within-ZIP Code differences in Republican and Democratic mask-wearing by Share GOP in the ZIP Code. Light grey line plots the LOESS fit from the binned scatter plot. Black dotted line plots the fit from the estimated within-ZIP Code regressions.

partisanship.[12] In other words, while Republicans' mask-wearing is strongly related to the percent Republican in their neighborhood, whites' mask wearing is not related to the percent white in their neighborhood, college graduates' mask wearing is not related the percent college graduate in their neighborhood, and high-income people's mask wearing is not related to the percent high-income in their neighborhood. This suggests that when a behavior is politicized, local partisanship is a uniquely powerful influence on adoption of that individual behavior.

Conclusion

In this paper we have demonstrated the effects of partisanship and partisan neighborhood context on an easily observable politicized behavior. The use of low-level data on partisan composition along with same-level fixed effects allows us to compare Democrats and Republicans living in the same county and even the same ZIP Codes. We cannot determine if the different responses to partisan context between Democrats and Republicans are a result of the influence of partisan norms (i.e. Republicans respond to Republican neighbors, but Democrats are resistant to this influence), to asymmetric social costs associated with defying local norms, or to other drivers of neighborhood selection for which we have not controlled. Still, that the relationship between partisan composition and mask-wearing is present even when making low-level comparisons – and is not present for less visible or less politicized public health behaviors – demonstrates a compelling relationship between local partisan context and public pro-social behavior.

Why are these effect limited to Republicans? Our data does not allow us to unpack the mechanism behind this difference, but we present two possible explanations for further research. The first is that social pressure operates differently for the behavioral expectation Democrats were being pressured on (putting on a mask) and the opposite behavioral expectation for Republicans (not putting on a mask). Second, it could be

[12] That is, rather than including Republican $*$ $[\text{Share GOP}]_z$ we include: White $*$ $[\text{Share White}]_z$, High Income $*$ $[\text{Share High Income}]_z$, and College Educated $*$ $[\text{Share college Educated}]_z$.

that well-documented average personality differences between Democrats and Republicans (Carney et al., 2009) makes Republicans more subject to social pressure from neighbors than Democrats.

Contemporary research increasingly shows the influence of partisanship on nonpolitical domains and a flood of evidence in the past year has shown associations between partisanship and attitudes relating to COVID-19. Here we show that consequential decisions, indeed even ones that can affect life and death, appear to be influenced by party-based social norms. Our results suggests that partisanship may be the basis for powerful social pressure that can influence behavior in consequential ways. With pronounced partisan sorting across geographies causing many partisans to live in political isolation, our findings raise the possibility that geographic-based partisan neighborhoods can powerfully shape the spread — or retreat — of pro-social behaviors. Our evidence suggests that researchers and policymakers, when considering how best to shape behavior for the common good, may also consider the influence of partisan local contexts and the importance of behavioral cascades.

Such contextual influences on pro-social public health behaviors generally and COVID-19 protection in particular are important in their own right, but the phenomenon of visible displays of politicized behavior being amplified through homogeneous geographic context may extend to other behaviors as well. For example, recent political events have been accompanied by the widespread presence of political signage in certain areas, even during non-election periods, such as those supporting Black Lives Matter or Donald Trump. The willingness to display such signs may be a feature of whether others nearby are doing the same. Furthermore, other politicized behavior, such as the public display of firearms, have potential consequences for not only public safety but the exercise of free speech, and may be encouraged or discouraged depending on local norms (e.g., Zick (2018)). Further research should consider whether these and other behaviors are susceptible to local social influence and how best to shape norms to protect health, safety, and well-being.

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Appendix 1: Additional Figures

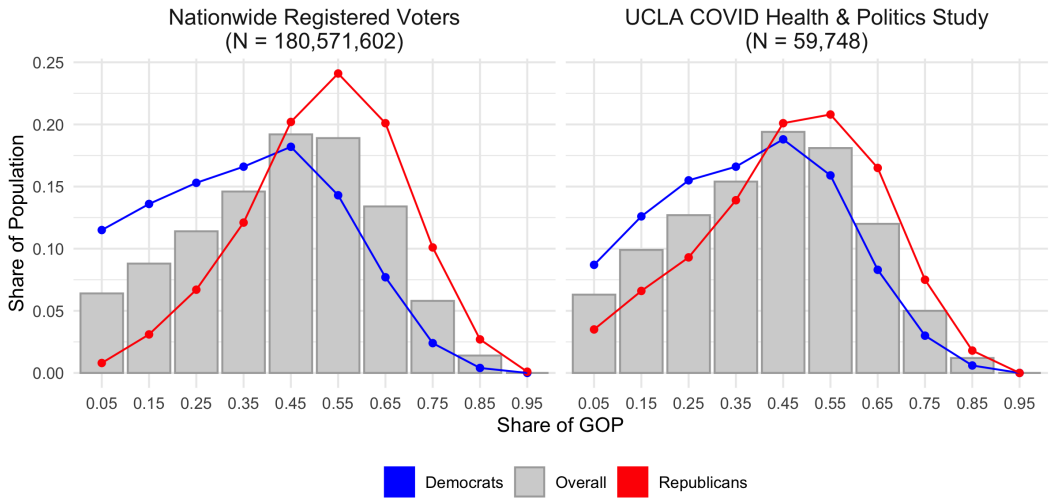

Figure A1: Percent GOP in the ZIP Code for all registered voters (left) and voters in survey sample (right).

Histograms plot the distribution of ZIP Code Share GOP across all ZIP Codes. Distributions are weighted by number of registered voters (left panel) and number of survey respondents (right panel). Blue lines show distribution for Democrats, red lines for Republicans, and grey for the entire samples.

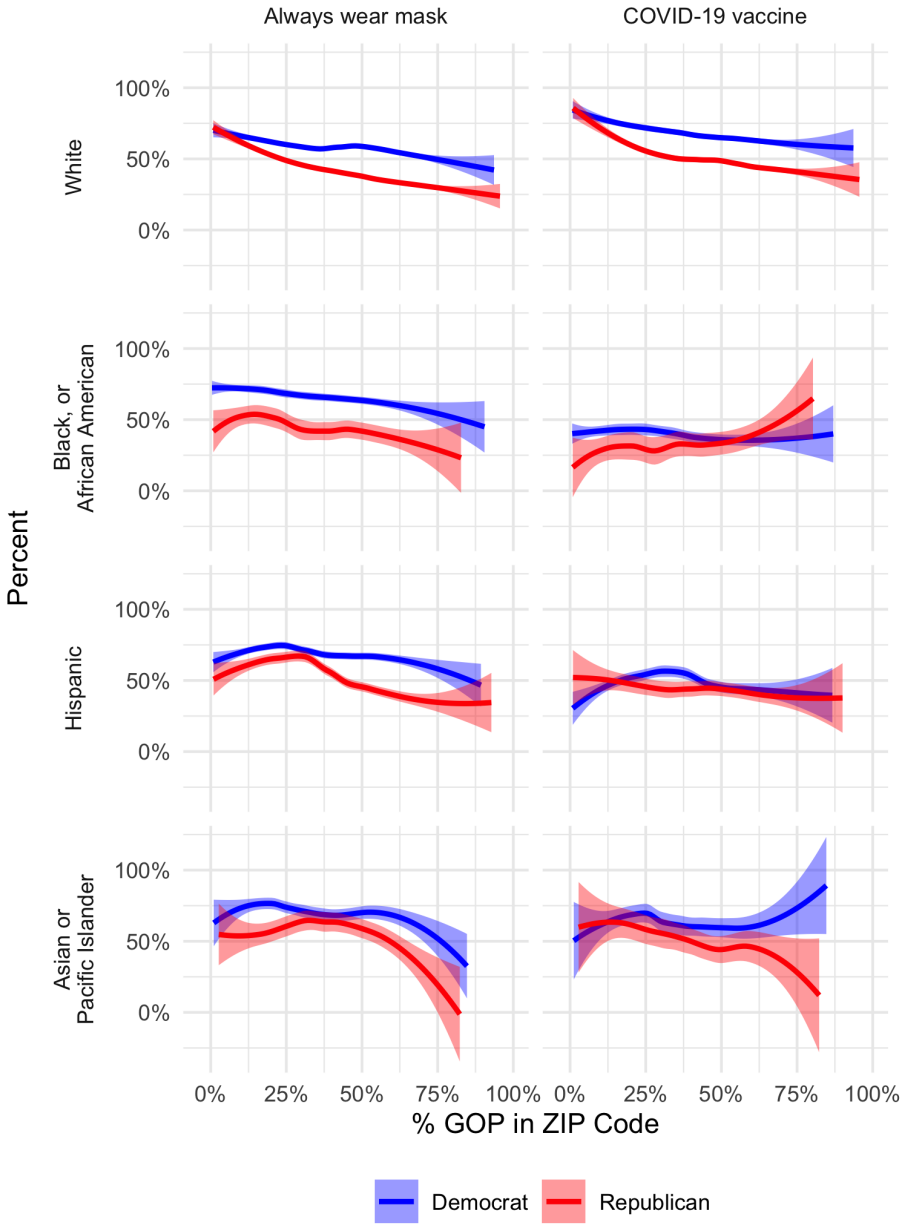

Figure A2: Association between a ZIP Code's Residential Partisan Context and Reported Rates of Mask Wearing and Vaccine Uptake by Partisanship and Race/Ethnicity

Lines plot the LOESS fitted line for rates of mask-wearing (left panel) and COVID-19 vaccination (right panel) across ZIP Code percent Republican composition, separately for Democrat (blue lines) and Republican (red lines) survey respondents, and also broken out by race (rows).

Appendix 2: Full Regression Tables

Table A1: Within-County Models of Neighborhood Partisanship

	Always Wear Mask	COVID Vaccine	Flu Vaccine 2020	Flu Vaccine 2019
Share GOP	0.075 (0.062)	-0.120 (0.094)	-0.083 (0.094)	-0.069 (0.094)
Republican	-0.061 (0.028) *	-0.098 (0.038) **	-0.075 (0.038) *	-0.040 (0.039)
Republican * Share GOP	-0.244 (0.064) ***	0.012 (0.096)	0.047 (0.090)	-0.020 (0.094)
Republican * Share White ('18 Zip)	0.028 (0.043)	-0.163 (0.069) *	-0.097 (0.063)	-0.077 (0.066)
Republican * Share College and Above ('18 ZIP)	0.128 (0.073) +	-0.014 (0.108)	-0.074 (0.106)	-0.101 (0.109)
Republican * Median HH Income, Thousands ('19 ZIP)	-0.001 (0.000) +	0.001 (0.001)	0.000 (0.001)	0.001 (0.001)
Log(Deaths per 1K People)	0.081 (0.013) ***	-0.010 (0.026)	-0.014 (0.025)	-0.014 (0.026)
Female	0.074 (0.007) ***	-0.112 (0.011) ***	0.003 (0.011)	0.012 (0.011)
Household Income	0.000 (0.000)	0.001 (0.000) ***	0.001 (0.000) ***	0.001 (0.000) ***
Household Income Missing	-0.011 (0.016)	0.072 (0.025) **	0.023 (0.026)	0.025 (0.026)
Age	0.002 (0.000) ***	0.002 (0.000) ***	0.006 (0.000) ***	0.005 (0.000) ***
White	-0.071 (0.013) ***	0.202 (0.020) ***	0.116 (0.020) ***	0.092 (0.020) ***
Hispanic	0.003 (0.016)	0.136 (0.025) ***	0.075 (0.025) **	0.084 (0.024) ***
Asian or Pacific Islander	0.038 (0.020) +	0.180 (0.032) ***	0.105 (0.032) **	0.096 (0.032) **
Some other race	-0.072 (0.026) **	0.108 (0.040) **	0.004 (0.036)	0.061 (0.039)
Some College	0.000 (0.009)	0.030 (0.014) *	0.025 (0.014) +	0.004 (0.014)
College and Above	0.027 (0.010) **	0.106 (0.016) ***	0.092 (0.016) ***	0.077 (0.016) ***
Health Diagnoses (0-6)	0.028 (0.004) ***	0.047 (0.006) ***	0.064 (0.005) ***	0.079 (0.006) ***
Share College and Above ('18 ZIP)	-0.067 (0.055)	0.095 (0.085)	0.027 (0.086)	0.018 (0.083)
Median HH Income ('19 ZIP)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Pop. Density Change ('18 ZIP)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Share White ('18 ZIP)	-0.101 (0.045) *	0.075 (0.070)	0.099 (0.068)	0.114 (0.070)
Wave 2	0.153 (0.010) ***			
Wave 3	0.175 (0.010) ***			
Wave 4	0.206 (0.010) ***	0.066 (0.014) ***	0.018 (0.013)	0.020 (0.014)
County Fixed Effect	✓	✓	✓	✓
N	49,626	25,119	25,137	25,152
R-Squared	0.208	0.257	0.257	0.246
Adj. R-Squared	0.164	0.182	0.181	0.170

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***

Table A2: Within-ZIP Code Models of Neighborhood Partisanship (All Coefficients)

	Always Wear Mask	COVID Vaccine	Flu Vaccine 2020	Flu Vaccine 2019
Republican	-0.068 (0.032) *	-0.050 (0.044)	-0.051 (0.045)	-0.072 (0.047)
Republican * Share GOP	-0.198 (0.074) **	0.000 (0.121)	-0.136 (0.111)	-0.013 (0.119)
Republican * Share White ('18 Zip)	-0.006 (0.049)	-0.191 (0.089) *	0.016 (0.076)	-0.015 (0.083)
Republican * Share College and Above ('18 ZIP)	0.174 (0.088) *	-0.136 (0.140)	-0.250 (0.133) +	-0.081 (0.140)
Republican * Median HH Income, Thousands ('19 ZIP)	-0.001 (0.000)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Log(Deaths per 1K People)	0.095 (0.015) ***	-0.008 (0.033)	-0.010 (0.032)	-0.022 (0.033)
Female	0.065 (0.008) ***	-0.106 (0.014) ***	0.005 (0.014)	0.011 (0.014)
Household Income	0.000 (0.000)	0.001 (0.000) ***	0.001 (0.000) ***	0.001 (0.000) ***
Household Income Missing	-0.003 (0.018)	0.060 (0.032) +	0.060 (0.031) +	0.037 (0.031)
Age	0.002 (0.000) ***	0.002 (0.000) ***	0.006 (0.000) ***	0.005 (0.000) ***
White	-0.078 (0.015) ***	0.206 (0.025) ***	0.116 (0.026) ***	0.071 (0.025) **
Hispanic	-0.005 (0.019)	0.143 (0.033) ***	0.084 (0.033) **	0.075 (0.032) *
Asian or Pacific Islander	0.034 (0.023)	0.202 (0.043) ***	0.151 (0.043) ***	0.091 (0.043) *
Some other race	-0.071 (0.030) *	0.128 (0.050) *	0.022 (0.046)	0.088 (0.050) +
Some College	0.006 (0.011)	0.039 (0.019) *	0.011 (0.018)	0.007 (0.019)
College and Above	0.030 (0.011) **	0.142 (0.021) ***	0.095 (0.021) ***	0.090 (0.020) ***
Health Diagnoses (0-6)	0.025 (0.004) ***	0.050 (0.007) ***	0.063 (0.007) ***	0.075 (0.007) ***
Wave 2	0.157 (0.011) ***			
Wave 3	0.176 (0.012) ***			
Wave 4	0.202 (0.011) ***	0.068 (0.016) ***	0.009 (0.016)	0.026 (0.017)
ZIP Code Fixed Effect	✓	✓	✓	✓
N	49,626	25,119	25,137	25,152
R-Squared	0.508	0.650	0.641	0.640
Adj. R-Squared	0.318	0.396	0.381	0.379

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***

Table A3: Interactions Between White and ZIP Code-level Measures

	Always Wear Mask	COVID Vaccine	Flu Vaccine 2020	Flu Vaccine 2019
Republican	-0.139 (0.009) ***	-0.124 (0.014) ***	-0.096 (0.014) ***	-0.060 (0.014) ***
White	-0.056 (0.031) +	0.212 (0.050) ***	0.095 (0.051) +	0.043 (0.051)
White * Share White ('18 ZIP)	0.010 (0.060)	0.117 (0.105)	0.092 (0.101)	0.020 (0.101)
White * Share GOP	-0.076 (0.084)	-0.346 (0.142) *	-0.141 (0.132)	-0.059 (0.134)
White * Share College and Above ('18 ZIP)	0.117 (0.095)	-0.120 (0.168)	-0.049 (0.162)	0.032 (0.162)
White * Median HH Income, Thousands ('19 ZIP)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Log(Deaths per 1K People)	0.094 (0.015) ***	-0.010 (0.033)	-0.014 (0.032)	-0.022 (0.033)
Female	0.065 (0.008) ***	-0.104 (0.014) ***	0.006 (0.014)	0.012 (0.014)
Household Income	0.000 (0.000)	0.000 (0.000) ***	0.001 (0.000) ***	0.001 (0.000) ***
Household Income Missing	-0.003 (0.018)	0.069 (0.032) *	0.065 (0.031) *	0.042 (0.031)
Age	0.002 (0.000) ***	0.002 (0.000) ***	0.006 (0.000) ***	0.005 (0.000) ***
Some College	0.006 (0.010)	0.036 (0.019) +	0.009 (0.018)	0.006 (0.019)
College and Above	0.032 (0.011) **	0.144 (0.020) ***	0.097 (0.021) ***	0.090 (0.020) ***
Health Diagnoses (0-6)	0.025 (0.004) ***	0.050 (0.007) ***	0.062 (0.007) ***	0.075 (0.007) ***
Wave 2	0.157 (0.011) ***			
Wave 3	0.177 (0.012) ***			
Wave 4	0.201 (0.011) ***	0.069 (0.017) ***	0.010 (0.016)	0.026 (0.017)
ZIP Code Fixed Effect	✓	✓	✓	✓
N	49,626	25,119	25,137	25,152
R-Squared	0.507	0.647	0.639	0.639
Adj. R-Squared	0.316	0.391	0.378	0.378

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***

Table A4: Interactions Between College and Above and ZIP Code-level Measures

	Always Wear Mask	COVID Vaccine	Flu Vaccine 2020	Flu Vaccine 2019
Republican	-0.140 (0.009) ***	-0.133 (0.014) ***	-0.101 (0.014) ***	-0.066 (0.014) ***
College and Above	0.115 (0.031) ***	0.093 (0.048) +	0.101 (0.052) +	0.091 (0.048) +
College and Above * Share College and Above ('18 ZIP)	0.060 (0.083)	0.073 (0.146)	-0.004 (0.153)	0.014 (0.136)
College and Above * Share GOP	-0.018 (0.073)	-0.117 (0.126)	0.020 (0.135)	0.021 (0.122)
College and Above * Share White ('18 ZIP)	-0.047 (0.051)	0.118 (0.087)	0.042 (0.094)	-0.002 (0.089)
College and Above * Median HH Income, Thousands ('19 ZIP)	-0.001 (0.000) *	-0.000 (0.001)	-0.001 (0.001)	-0.000 (0.001)
Log(Deaths per 1K People)	0.095 (0.015) ***	-0.009 (0.033)	-0.009 (0.032)	-0.022 (0.033)
Female	0.065 (0.008) ***	-0.105 (0.014) ***	0.006 (0.014)	0.012 (0.014)
Household Income	0.000 (0.000)	0.001 (0.000) ***	0.001 (0.000) ***	0.001 (0.000) ***
Household Income Missing	-0.005 (0.018)	0.058 (0.032) +	0.060 (0.031) +	0.037 (0.031)
Age	0.002 (0.000) ***	0.002 (0.000) ***	0.006 (0.000) ***	0.005 (0.000) ***
White	-0.079 (0.015) ***	0.210 (0.025) ***	0.117 (0.026) ***	0.071 (0.025) **
Hispanic	-0.003 (0.019)	0.139 (0.033) ***	0.082 (0.033) *	0.073 (0.032) *
Asian or Pacific Islander	0.034 (0.023)	0.203 (0.044) ***	0.153 (0.044) ***	0.091 (0.043) *
Some other race	-0.070 (0.030) *	0.137 (0.050) **	0.022 (0.046)	0.088 (0.050) +
Health Diagnoses (0-6)	0.026 (0.004) ***	0.050 (0.007) ***	0.063 (0.007) ***	0.075 (0.007) ***
Wave 2	0.158 (0.011) ***			
Wave 3	0.177 (0.012) ***			
Wave 4	0.202 (0.011) ***	0.068 (0.016) ***	0.009 (0.016)	0.026 (0.017)
ZIP Code Fixed Effect	✓	✓	✓	✓
N	49,626	25,119	25,137	25,152
R-Squared	0.508	0.649	0.641	0.640
Adj. R-Squared	0.317	0.394	0.380	0.379

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***

Table A5: Interactions Between High-Income ZIP Code-level Measures

	Always Wear Mask	COVID Vaccine	Flu Vaccine 2020	Flu Vaccine 2019
Republican	-0.139 (0.009) ***	-0.134 (0.014) ***	-0.100 (0.013) ***	-0.065 (0.014) ***
High Income	0.028 (0.030)	0.143 (0.049) **	0.202 (0.055) ***	0.194 (0.051) ***
High Income * Share High Income ('18 ZIP)	-0.167 (0.099) +	0.138 (0.166)	-0.152 (0.185)	-0.143 (0.167)
High Income * Share GOP	0.052 (0.081)	-0.207 (0.130)	-0.205 (0.146)	-0.167 (0.136)
High Income * Share White ('18 ZIP)	-0.084 (0.056)	0.022 (0.095)	0.060 (0.101)	0.024 (0.096)
High Income * Share College and Above ('18 ZIP)	0.172 (0.097) +	-0.100 (0.175)	-0.144 (0.197)	-0.084 (0.173)
Log(Deaths per 1K People)	0.094 (0.015) ***	-0.005 (0.033)	-0.008 (0.032)	-0.020 (0.033)
Female	0.064 (0.008) ***	-0.106 (0.014) ***	0.003 (0.014)	0.010 (0.014)
Household Income Missing	-0.005 (0.018)	0.073 (0.033) *	0.059 (0.031) +	0.038 (0.031)
Age	0.002 (0.000) ***	0.003 (0.000) ***	0.006 (0.000) ***	0.005 (0.000) ***
White	-0.078 (0.015) ***	0.206 (0.025) ***	0.117 (0.026) ***	0.070 (0.025) **
Hispanic	-0.003 (0.019)	0.144 (0.033) ***	0.079 (0.033) *	0.070 (0.032) *
Asian or Pacific Islander	0.034 (0.023)	0.203 (0.043) ***	0.149 (0.043) ***	0.087 (0.043) *
Some other race	-0.071 (0.030) *	0.130 (0.050) **	0.018 (0.046)	0.083 (0.050) +
Some College	0.008 (0.011)	0.040 (0.019) *	0.013 (0.018)	0.010 (0.019)
College and Above	0.034 (0.011) **	0.143 (0.020) ***	0.107 (0.020) ***	0.099 (0.020) ***
Health Diagnoses (0-6)	0.025 (0.004) ***	0.048 (0.007) ***	0.061 (0.007) ***	0.074 (0.007) ***
Wave 2	0.157 (0.011) ***			
Wave 3	0.177 (0.012) ***			
Wave 4	0.201 (0.011) ***	0.067 (0.016) ***	0.008 (0.016)	0.025 (0.017)
ZIP Code Fixed Effect	✓	✓	✓	✓
N	49,626	25,119	25,137	25,152
R-Squared	0.507	0.650	0.641	0.639
Adj. R-Squared	0.317	0.396	0.380	0.378

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***

Table A6: Comparing Within-County Models With and Without Ideology (December 4-16 Wave Only)

	Always Wear Mask		COVID Vaccine	
	Without Ideology	With Ideology	Without Ideology	With Ideology
Share GOP	-0.201 (0.115) +	-0.183 (0.114)	-0.312 (0.132) *	-0.301 (0.131) *
Republican	-0.108 (0.056) +	-0.104 (0.056) +	-0.098 (0.053) +	-0.091 (0.053) +
Republican * Share GOP	-0.296 (0.131) *	-0.298 (0.132) *	0.010 (0.130)	0.004 (0.130)
Republican * Share White ('18 Zip)	-0.033 (0.086)	-0.024 (0.086)	-0.160 (0.093) +	-0.142 (0.093)
Republican * Share College and Above ('18 ZIP)	-0.130 (0.152)	-0.128 (0.151)	0.108 (0.145)	0.128 (0.144)
Republican * Median HH Income, Thousands ('19 ZIP)	0.001 (0.001)	0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Log(Deaths per 1K People)	0.082 (0.068)	0.087 (0.068)	0.122 (0.071) +	0.127 (0.071) +
Female	0.107 (0.014) ***	0.104 (0.014) ***	-0.093 (0.015) ***	-0.094 (0.015) ***
Household Income	0.000 (0.000)	0.000 (0.000)	0.001 (0.000) ***	0.001 (0.000) ***
Household Income Missing	0.021 (0.031)	0.012 (0.030)	0.102 (0.032) **	0.105 (0.032) **
Age	0.003 (0.000) ***	0.003 (0.000) ***	0.004 (0.000) ***	0.004 (0.000) ***
White	-0.024 (0.025)	-0.025 (0.024)	0.167 (0.027) ***	0.165 (0.027) ***
Hispanic	-0.011 (0.031)	-0.012 (0.031)	0.086 (0.036) *	0.088 (0.035) *
Asian or Pacific Islander	0.057 (0.039)	0.061 (0.039)	0.138 (0.046) **	0.141 (0.045) **
Some other race	-0.029 (0.053)	-0.032 (0.053)	0.064 (0.054)	0.070 (0.054)
Some College	0.002 (0.018)	0.002 (0.018)	0.009 (0.020)	0.004 (0.020)
College and Above	0.003 (0.020)	0.004 (0.020)	0.111 (0.022) ***	0.103 (0.022) ***
Health Diagnoses (0-6)	0.016 (0.007) *	0.016 (0.008) *	0.051 (0.007) ***	0.051 (0.007) ***
Share College and Above ('18 ZIP)	-0.060 (0.102)	-0.058 (0.102)	0.012 (0.118)	-0.011 (0.117)
Median HH Income ('19 ZIP)	0.000 (0.001)	0.000 (0.001)	0.001 (0.001)	0.001 (0.001)
Pop. Density Change ('18 ZIP)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Share White ('18 ZIP)	0.013 (0.081)	0.002 (0.081)	0.157 (0.097)	0.145 (0.096)
Libertarian		-0.023 (0.060)		-0.083 (0.063)
Very Conservative		0.043 (0.021) *		0.002 (0.022)
Conservative		-0.043 (0.022) *		0.001 (0.022)
Liberal		-0.002 (0.020)		0.028 (0.023)
Very Liberal		0.045 (0.024) +		0.105 (0.025) ***
I don't know		0.084 (0.036) *		-0.098 (0.041) *
County Fixed Effect	✓	✓	✓	✓
N	12,642	12,633	12,609	12,600
R-Squared	0.322	0.326	0.335	0.340
Adj. R-Squared	0.202	0.206	0.217	0.223

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***

Table A7: Comparing Within-ZIP Code Models With and Without Ideology (December 4-16 Wave Only)

	Always Wear Mask		COVID Vaccine	
	Without Ideology	With Ideology	Without Ideology	With Ideology
Republican	-0.077 (0.077)	-0.068 (0.076)	-0.115 (0.067) +	-0.106 (0.066)
Republican * Share GOP	-0.410 (0.187) *	-0.410 (0.185) *	0.200 (0.174)	0.207 (0.174)
Republican * Share White ('18 Zip)	-0.030 (0.117)	-0.010 (0.117)	-0.358 (0.129) **	-0.335 (0.129) **
Republican * Share College and Above ('18 ZIP)	0.044 (0.215)	0.021 (0.214)	0.434 (0.190) *	0.494 (0.189) **
Republican * Median HH Income, Thousands ('19 ZIP)	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.002 (0.001) +
Log(Deaths per 1K People)	0.146 (0.105)	0.152 (0.104)	0.174 (0.103) +	0.177 (0.103) +
Female	0.111 (0.021) ***	0.107 (0.021) ***	-0.094 (0.022) ***	-0.094 (0.022) ***
Household Income	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Household Income Missing	-0.027 (0.043)	-0.035 (0.042)	0.131 (0.045) **	0.131 (0.044) **
Age	0.003 (0.001) ***	0.003 (0.001) ***	0.003 (0.001) ***	0.003 (0.001) ***
White	-0.010 (0.036)	-0.012 (0.035)	0.168 (0.037) ***	0.167 (0.037) ***
Hispanic	0.035 (0.046)	0.032 (0.046)	0.073 (0.054)	0.071 (0.053)
Asian or Pacific Islander	0.109 (0.055) *	0.116 (0.056) *	0.149 (0.070) *	0.160 (0.068) *
Some other race	-0.075 (0.077)	-0.079 (0.076)	0.049 (0.070)	0.065 (0.067)
Some College	0.009 (0.026)	0.005 (0.026)	0.066 (0.028) *	0.062 (0.028) *
College and Above	0.007 (0.027)	0.004 (0.027)	0.159 (0.031) ***	0.149 (0.031) ***
Health Diagnoses (0-6)	0.030 (0.011) **	0.030 (0.011) **	0.056 (0.009) ***	0.056 (0.009) ***
Libertarian		0.018 (0.075)		0.095 (0.078)
Very Conservative		0.021 (0.028)		0.006 (0.032)
Conservative		-0.078 (0.028) **		0.051 (0.029) +
Liberal		-0.022 (0.028)		0.072 (0.029) *
Very Liberal		0.022 (0.033)		0.113 (0.030) ***
I don't know		0.032 (0.051)		-0.118 (0.059) *
ZIP Code Fixed Effect	✓	✓	✓	✓
N	12,642	12,633	12,609	12,600
R-Squared	0.740	0.742	0.758	0.762
Adj. R-Squared	0.385	0.389	0.428	0.435

P-Value thresholds: 0.1 + 0.05 * 0.01 ** 0.001 ***