Appendix

April 27, 2020

Contents

1 Survey Methodology

1.1 Case and Survey Information

1.1.1 Smallpox (2003)

In the aftermath of the 9/11 attacks, the US government was concerned about the potential of bioterrorism using smallpox or other infectious agents. On Dec 13, 2002, the Bush administration announced a voluntary smallpox vaccination program, which aimed to vaccinate target groups of healthcare workers to protect against a potential bioterror attack. However, smallpox vaccination does carry some serious but very rare side effects (about one in one million people vaccinated will experience these effects). I used survey data to estimate how partisanship affected perceptions of the smallpox vaccine.

Perceptions of vaccine safety were measured using several questions from the nationally representative April 2003 Harvard School of Public Health Smallpox survey (n = 1,003), which asked respondents about the probability of experiencing a range of side effects such as serious illness or death from the smallpox vaccine. This variable was reported on a four-point scale ranging from "not likely at all" to "very likely", and 26% of all respondents claimed that death was a very or somewhat likely side effect. To evaluate the effect of partisanship on responses to this question, I used a ordered logit model. I controlled for demographic variables, including gender, age, race, income, and education, as many of these variables have been previously found to affect partisanship and attitudes towards vaccines.

Willingness to vaccinate was measured with a question from the nationally representative January 2003 Gallup/CNN/USA Today poll (n= 1,000), which asked respondents whether they would get the smallpox vaccine if it were to become available. The responses were fairly equally split, with 53% of all respondents saying they would get the vaccine, and 44% saying they would not. To evaluate the effect of partisanship on willingness to vaccinate, I used a binomial logit model.

Survey Questions: I used a smallpox vaccination intent question from the Gallup/CNN/USA Today poll in January 2003.

> *"Health authorities say there's a small risk from the smallpox vaccine. Out of every one million people who get the vaccine for the first time, one or two will die and up to 50 people will face serious complications. Considering the risk versus the benefit, would you, yourself, get a smallpox vaccine if it were available, or not?"*

The question was from a SARS survey conducted by the Harvard School of Public Health in April 2003.

> *"If you were to be (vaccinated/re-vaccinated) for smallpox, how likely do you think it is that you would experience the following sorts of side effects from the vaccination? Sore Arm? Serious Illness? Death?"*

1.1.2 H1N1 (2009)

H1N1 emerged as a global health concern in April 2009. In late October 2009, the US government began a campaign to vaccinate the population against H1N1. There were virtually no serious side effects reported as a result of vaccination (Broder et al. 2009). I used polling data to estimate partisan differences in perceptions of H1N1 vaccine safety and willingness to vaccinate for H1N1.

Perceptions of vaccine safety were measured using several questions from the nationally representative October 2009 ABC/Washington Post survey (n = 1,004), which asked respondents about their confidence in the safety of the H1N1 vaccine. This variable was reported on a four-point scale from "Not at all confident” to "Very confident”, with 30% of all respondents "Not confident” or "Not very confident” in the safety of the vaccine. To evaluate the effect of partisanship on beliefs about H1N1 vaccine safety, I used a ordered logit model and controlled for the same demographic variables as in the previous section. Again, my main independent variable of interest was partisanship, and as in the previous regression all leaners were coded as partisans.

Willingness to vaccinate was measured with a question from the same ABC/Washington Post survey, which asked respondents whether they were willing to get vaccinated for H1N1. In this case, 62% of respondents said that they were unlikely to get the H1N1 vaccine. To evaluate the effect of partisanship on willingness to vaccinate, I used a binomial logit model. In addition to controlling for demographic variables, I also controlled for respondent’s worry about being personally affected by the H1N1 epidemic.

Survey Questions: To test the effect of partisanship on H1N1 vaccination, I relied on an ABC/Washington Post H1N1 survey administered in mid-October 2009.

The H1N1 vaccination intent question read:

> *“Thinking now about the swine flu vaccine – not the vaccine for regular flu, but the one specially developed this year for swine flu – do you plan to get the swine flu vaccine this year, or do you think you probably will not get the swine flu vaccine?”*

For the case of H1N1, I used a vaccine safety question from the same October ABC/Washington Post 2009 survey,which read:

> *“How confident are you that the swine flu vaccine is safe: very confident, somewhat confident, not so confident or not confident at all?”*

For the H1N1 survey, I used a question which measured trust in the federal government's ability to handle H1N1

> *How confident are you in the federal government's ability to respond effectively to an outbreak of swine flu in the United States - very confident, somewhat confident, not so confident or not confident at all?*

1.1.3 Measles (2015)

I examined a second case of government vaccine recommendations under a Democratic president - the case of measles. In 2000, measles was declared "eliminated" from the US. On average, fewer than 100 cases of measles per year were reported between 2001 and 2013. However, 2014 yielded over 600 cases of measles, including outbreaks linked to unvaccinated communities in Ohio and California (Control and Prevention 2015). In 2014, the Obama administration expressed support for universal measles vaccination. Once again, I used polling data to examine partisans' perceptions of vaccine safety and willingness to vaccinate.

To collect data on attitudes toward the measles vaccination, I ran a nationally diverse survey through Survey Sampling International (n = 4570) that asked questions about MMR vaccine safety and efficacy, concern over measles, and vaccine choice. This survey was fielded in April 2015. The MMR safety and efficacy questions from the survey were highly correlated (Cronbach's $\alpha = 0.87$).

To examine the effect of partisanship on vaccination, I used a question from the same survey which asked respondents if they would vaccinate their child for MMR, or if they would seek an exemption. Only 10.6% of respondents claimed that they would seek an exemption, a number which closely matched the percentage of respondents who expressed doubts about the safety of the vaccine. I controlled for demographics and worry about measles, and my independent variable of interest was partisan identification. As in all previous vaccine choice regressions, I used a binomial logit model.

Survey Questions: For my data on the measles vaccination, I ran a nationally diverse survey experiment (n = 4570). This survey experiment had four conditions that contained cues that identified Democrats Obama and Hillary Clinton as universal MMR vaccine supporters, cues that identified Republicans Christie and Paul as proponents of parental vaccine choice, both cues, or neither cue.

I asked the following question about intent to vaccinate for measles:

> *If you were the parent of a school-age child, would you vaccinate your child with the MMR vaccine, or would you seek an exemption?*

On the measles survey, I asked the following question about measles vaccine safety:

> *How confident are you in the safety of the measles-mumps-rubella (MMR) vaccine?*

h I used the following question to measure trust in government on the measles survey:

> *How much of the time do you think you can trust the current presidential administration to do what is right?*

1.2 Survey Experiment

In all three of the vaccine cases examined, the president made at least one statement regarding the public health crisis. It is possible that the presidentâs position merely served as an elite cue, and that this cueing mechanism is the true cause of partisan differences in vaccination rates. To further test this alternative hypothesis, I ran a survey experiment (n = 4570) to examine the effect of elite cueing on beliefs about the measles vaccine. The **control condition** included the following text:

In light of the recent measles outbreak, some public officials have emphasized the need for all children to be vaccinated against measles. Other officials have stated that parents should have the choice of whether or not to vaccinate their child against measles.

The three experimental conditions inserted names and partisan affiliations of politicians who both supported and opposed universal measles vaccination. The **Democrat condition** inserted the names and party affiliation of **Barack Obama and Hillary Clinton** as supporters of a universal measles vaccination (as "some public officials, including..."), and the **Republican condition** inserted the names and party affiliation of **Chris Christie and Rand Paul** as supporters of giving parents a choice whether or not to vaccinate. The **Two-Party condition** inserted **both sets of names**. I then asked the following questions about the measles vaccine and the measles outbreak:

How concerned are you that you or someone in your immediate family might be exposed to measles?

How confident are you in the safety of the measles-mumps-rubella (MMR) vaccine?

How confident are you in the ability of the measles-mumps-rubella (MMR) vaccine to protect against measles infection?

If you were the parent of a school-age child, would you vaccinate your child with the MMR vaccine, or would you seek an exemption?

The first three questions had answers on a four point scale ("Not at all", "Not very", "Somewhat", "Very"), and the last question was a binary choice about whether to vaccinate or seek an exemption.

1.2.1 Results

Table 1 shows that there were virtually no significant effects of any of the treatments on perceptions of vaccine safety, vaccine effectiveness, worry about measles exposure, or willingness to vaccinate. There were two significant coefficients on the treatments. First, the marginally significant *negative* coefficient for Democrats in the Democratic treatment (the treatment where Obama and HRC endorsed universal vaccination). This effect is both marginally significant and in the opposite direction from expectations. However, none of the other questions had any significant Democratic treatment effect for Democrats, suggesting that this marginal effect is a statistical fluke. Second, there was a significant positive effect on independents for the Democratic treatment condition in the vaccine safety question. There is not other significant effect for Independents in any of the other treatments or questions. As such, we can safely conclude that the results of the priming experiment are null, especially given the large sample size (4750 observations).

Table 1: Partisan Cueing Effects on Vaccine Perception

	Dependent variable:			
	Measles Worry	MMR Safe	MMR Eff	MMR Choice
	ordered logistic	*ordered logistic*	*ordered logistic*	*logistic*
	(1)	(2)	(3)	(4)
PID Dem	–	–	–	–
PID Ind	-0.386^{**} (0.139)	-1.013^{**} (0.149)	-0.937^{**} (0.149)	-0.947^{**} (0.234)
PID Rep	−0.203 (0.127)	-0.340^{*} (0.141)	-0.382^{**} (0.141)	−0.199 (0.264)
Control (No party mentioned)	–	–	–	–
Condition D	0.101 (0.119)	$-0.217^{\dagger}$ (0.128)	−0.120 (0.130)	0.045 (0.241)
Condition R	0.119 (0.119)	−0.088 (0.129)	−0.111 (0.130)	0.204 (0.245)
Condition 2 Party	0.154 (0.119)	−0.144 (0.128)	−0.143 (0.129)	0.091 (0.239)
PID Ind x Cond D	−0.080 (0.200)	0.558^{**} (0.211)	0.313 (0.213)	0.127 (0.338)
PID Rep x Cond D	−0.165 (0.176)	0.066 (0.190)	−0.008 (0.192)	−0.241 (0.355)
PID Ind X Cond R	−0.302 (0.197)	0.143 (0.211)	0.073 (0.211)	−0.269 (0.335)
PID Rep X Cond R	−0.235 (0.172)	−0.141 (0.189)	−0.087 (0.190)	−0.195 (0.361)
PID Ind X Cond 2 Party	−0.262 (0.197)	0.297 (0.210)	0.243 (0.211)	−0.112 (0.332)
PID Rep X Cond 2 Party	$-0.312^{\dagger}$ (0.173)	−0.058 (0.189)	0.038 (0.190)	−0.382 (0.348)
Age	−0.002 (0.002)	0.017^{**} (0.002)	0.019^{**} (0.002)	0.025^{**} (0.003)
Female	0.205^{**} (0.055)	0.263^{**} (0.059)	0.315^{**} (0.060)	0.487^{**} (0.101)
Some HS	−0.157 (0.411)	−0.174 (0.438)	−0.426 (0.433)	0.279 (0.574)
HS grad	−0.236 (0.381)	−0.077 (0.404)	−0.387 (0.399)	0.258 (0.524)
Some college	−0.258 (0.380)	0.012 (0.403)	−0.243 (0.398)	0.550 (0.524)
College grad	−0.246 (0.382)	0.190 (0.405)	−0.035 (0.401)	0.676 (0.530)
Post Grad	−0.106 (0.386)	0.491 (0.411)	0.230 (0.407)	$1.072^{\dagger}$ (0.554)
Asian	0.649^{**} (0.142)	−0.186 (0.148)	$-0.284^{\dagger}$ (0.151)	0.378 (0.296)
Black	0.337^{**} (0.086)	-0.418^{**} (0.090)	-0.409^{**} (0.090)	-0.505^{**} (0.145)
Hispanic	0.621^{**} (0.094)	−0.136 (0.099)	−0.114 (0.099)	−0.059 (0.161)
Other	−0.117 (0.153)	−0.163 (0.165)	−0.257 (0.165)	$-0.404^{\dagger}$ (0.239)
Constant				0.663 (0.564)
Observations	4,570	4,570	4,570	4,570
Note:				†p<0.1; *p<0.05; **p<0.01

2 Mediation

2.1 Methodology

Multiple imputation is a statistical method that can generate an estimate of a missing value. I used multiple imputation to correct for missing covariate data in the surveys. Multiple imputation is useful is because specific subsets of data may be excluded due to non-response (for example, less educated respondents may be less likely to respond to a party identification question). Simply deleting this data (listwise deletion) is inefficient at best, and may produce biased estimates. This missing data can be predicted using multiple imputation, given that certain assumptions hold (King et al. 2001). I used the Amelia package to generate my multiply imputed data, with n=5 imputations. For every regression model, I ran a separate set of multiple imputations. I discarded all observations that were missing in the dependent variable, and ran multiple imputation using all variables included in the model[1].

I used the causal mediation analysis provided by mediation R package Tingley et al. 2013, to estimate the the average direct effect of partisanship and the effect of the mediator. First, I used multiple imputation to correct for missing data. Then, I ran my mediator model on each of the 5 imputed datasets separately and I used the combining rule described in Rubin (2004) to get the estimate and standard errors for the average causal mediation effect on the main mediator. In all mediation models, I also included the covariates that I used in my regressions - race, age, gender, education, and income. In all of my mediation analyses, I only look at the difference between Democrats and Republicans, not pure Independents[2].

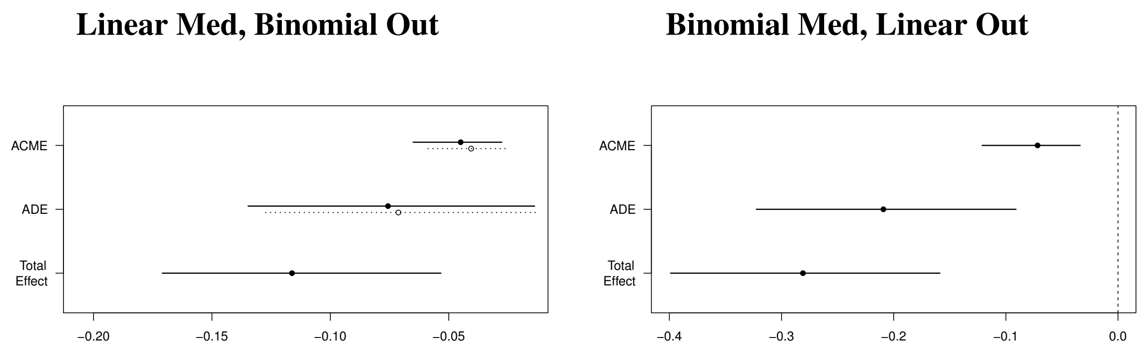
[1]The results were substantively similar whether or not I used multiple imputation

[2]pure Independents make up only about 10% of my sample. The mediation results are similar when they are included.

2.2 Vaccine Safety Mediation Additional Models

2.2.1 H1N1 (2009)

Figure 1: H1N1 Mediation Models



Here, I present the results of several additional mediation models, with sensitivity analyses. Mediation results were substantively similar across models, as were the results of the sensitivity analyses. For binomial mediators/outcomes, variables were collapsed to 0 if the respondent answered "not at all" or "not very" confident, and 1 if the respondent answered "somewhat" or "very" confident.

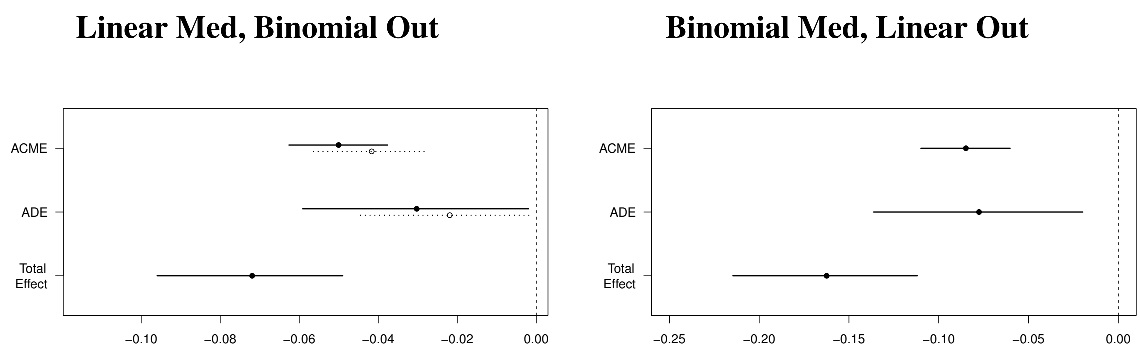
Figure 1 shows the mediation effect of trust in government on the partisan H1N1 safety gap using two additional models: one with a binomial mediator and linear outcome, and one with a linear mediator and binomial outcome. The two additional models show similar results to the models presented in the body of the paper - trust in government significantly mediates the partisan gap. Sensitivity analysis shows that these models are modestly sensitive to pre-treatment covariates, with ρ of 0.4 and 0.26, respectively, as compared to a ρ of 0.3 for the linear/linear model.

I chose these two additional mediation models because mediation sensitivity analysis is available only for linear/linear, linear/binomial probit, and binomial probit/linear mediation models(Tingley et al. 2013). As such, in conjunction with the linear/linear model presented in the body of the paper, I have comprehensively tested the sensitivity of my mediation analysis to unobserved pre-treatment covariates.

2.2.2 Measles (2015)

Figure 2 shows the results of the same models for the MMR vaccine. Again, these results echo the results presented in the body of the paper - trust significantly mediates the partisan gap. The sensitivity estimates are also very similar - a ρ of 0.19 and 0.16, respectively.

Figure 2: Measles Mediation Models

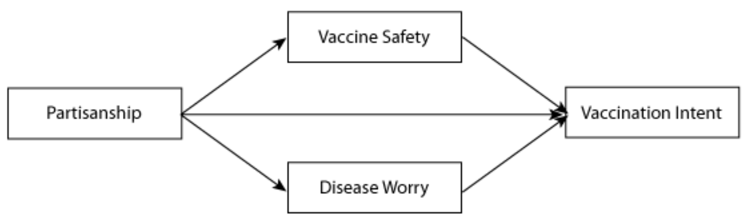


2.3 Vaccine Choice Mediation

People use multiple pieces of information when deciding whether or not to vaccinate. These considerations may include perceptions of both vaccine safety and concerns about the risk of the disease. To more rigorously test the relationships between partisanship, vaccine safety, and vaccination decision, I used a multiple mediation model (as described in Tingley et al. (2013)) in to determine whether perceptions of vaccine safety mediated the partisanship effect on vaccination decision, and compare it to the mediator effect of disease worry on vaccination decision.

Figure 3 shows the mediator model, which proposes two potential causal pathways. In the first potential causal pathway, termed "vaccine safety", partisans of the president's party are more likely to believe that vaccines are safe, and therefore more likely to vaccinate. In the second possible causal pathway, partisans of the president's party are more likely to worry about the disease in question, and are therefore more likely to vaccinate. The multiple mediation model allows me to test both pathways simultaneously and see whether one or both significantly mediate the effect of partisanship on vaccination decision.

Figure 3: Multiple Mediator Model



2.3.1 Smallpox (2003)

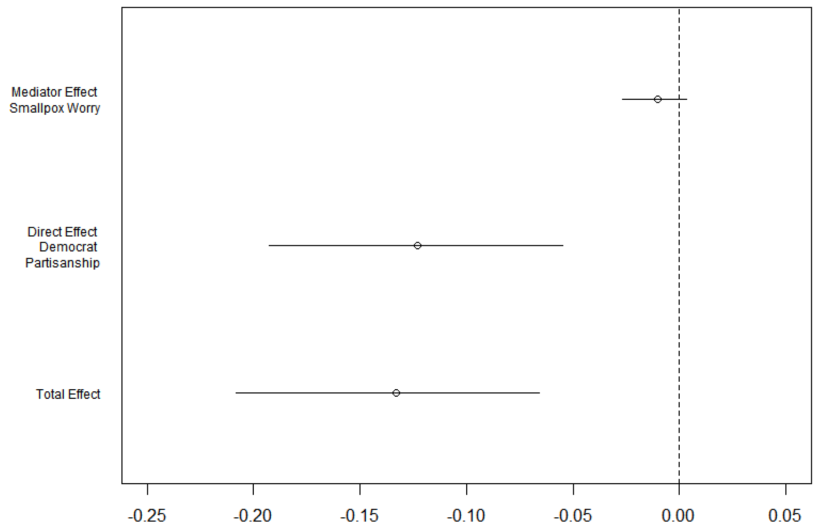
Due to data limitations[3], I was unable to test both the effects of disease worry and vaccine safety on the decision to vaccinate for smallpox. However, I was able to do a simple mediation model which examined the mediating effect of concern about a terrorist attack involving smallpox on the partisan difference in smallpox vaccination. If Republicans were more likely to vaccinate because they were more likely to be concerned about a terrorist attack involving smallpox, then the disease worry variable should significantly mediate the effect of partisanship on vaccination.

The results of the mediator model are presented in Figure 4. Worry about a terrorist attack involving smallpox was not a significant mediator of the effect of partisanship on decision to vaccinate. Democrats were significantly less likely to indicate that they would be willing to

[3]The smallpox disease worry and vaccine safety questions were asked on separate surveys

receive the smallpox vaccine, even after taking into account possible partisan differences in worry about smallpox exposure.

Figure 4: Does Disease Worry Mediate The Effect of Partisanship on Vaccination? (Smallpox)



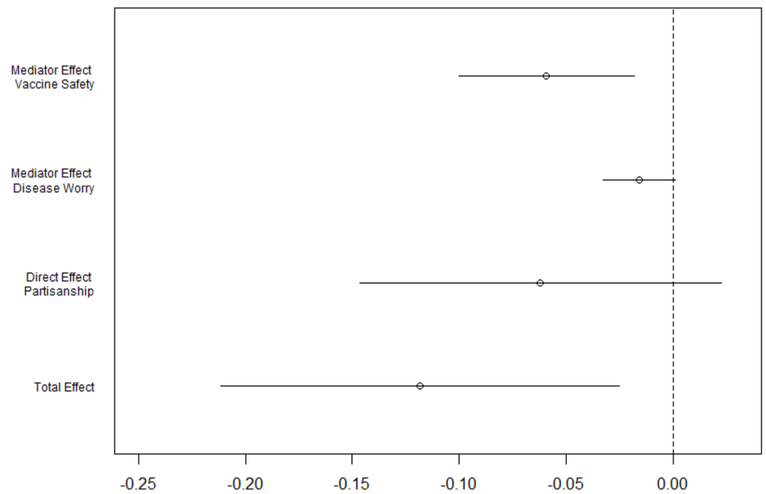
2.3.2 H1N1 (2009)

In the case of H1N1, I was able to run the complete multiple mediator model comparing the mediation effects of disease worry and vaccine safety on partisans' decision to vaccinate. Figure 5 shows that, as in the case of smallpox, worry about H1N1 did not significantly mediate the effect of partisanship on vaccination. On the other hand, concern about vaccine safety was a significant mediator for partisanship. This suggests that Democrats were more likely to vaccinate for H1N1 because they were more confident in the safety of the vaccine, not because they were more worried about H1N1.

2.3.3 Measles (2015)

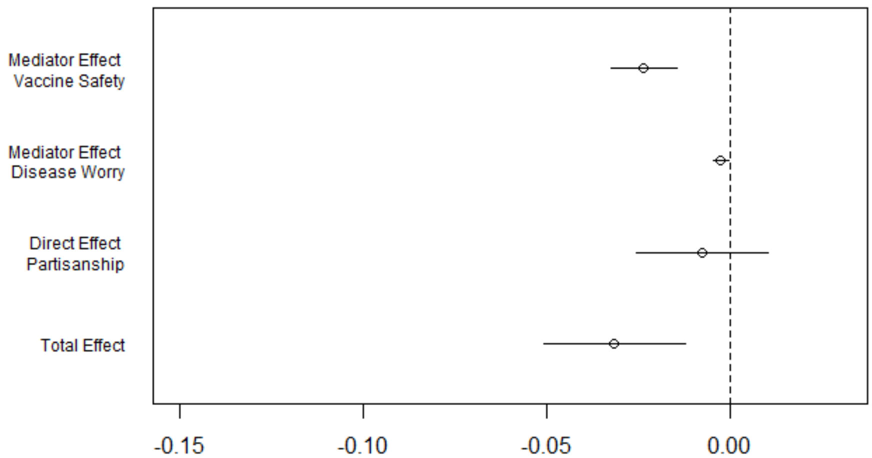
The case of measles was similar to the case of H1N1. Again, as shown by figure 6, concern about the disease had no significant mediating effect, while perceptions of vaccine safety had a strong and significant mediating effect.

Figure 5: Does Disease Worry or Vaccine Safety Mediate The Effect of Partisanship on Vaccination? (H1N1)



In all three cases, concern about the disease did not significantly mediate the effect of partisanship on vaccination decision. On the other hand, in both cases where vaccine safety was tested as a mediator, if did significantly mediate the partisan effect. This suggests that partisans of the president's party are more likely to vaccinate because they are less concerned about the safety of the vaccine, rather than more concerned about the danger of the disease.

Figure 6: Does Disease Worry or Vaccine Safety Mediate The Effect of Partisanship on Vaccination? (Measles)



3 Behavioral Model Robustness

In this section, I demonstrate that the effect of presidential administration on California vaccination rates is robust to a wide variety of model specifications.

3.1 Model (OLS vs Logistic)

In the body of the paper, I present the results using a logistic regression with school-district level random effects. Here, I present the results of an OLS on proportion of vaccinated/PBEs. Given significant heterogeneity of school district size (75% of the students reside in the largest 21% of the school districts), I use weights proportionate the size of the school district. I retain the school-district level random effects. Table 2 shows that the results of running an OLS are substantively identical to the logit results presented in the body of the paper.

Table 2: CA Vaccination (OLS)

	Dependent variable:	
	PBE Rate	Vaccination Rate
	(1)	(2)
2008 Dem Vote	0.125^{**} (0.015)	-0.168^{**} (0.019)
Obama Admin	0.023^{**} (0.002)	-0.043^{**} (0.003)
Obama Admin x 2008 Dem Vote	-0.030^{**} (0.002)	0.038^{**} (0.005)
Year	0.001^{**} (0.0001)	0.001^{**} (0.0002)
Median HH Income	-0.008^{*} (0.003)	0.016^{**} (0.004)
% Black	-0.132^{**} (0.046)	0.084 (0.055)
% Hispanic	-0.122^{**} (0.012)	0.180^{**} (0.015)
% Asian	-0.127^{**} (0.021)	0.170^{**} (0.025)
% College	0.040 (0.026)	−0.047 (0.032)
% Urban	-0.030^{**} (0.006)	0.039^{**} (0.007)
Constant	0.020^{*} (0.008)	0.919^{**} (0.010)
Observations	10,009	10,009
Log Likelihood	19,881.760	13,090.970
Akaike Inf. Crit.	−39,737.520	−26,155.930
Bayesian Inf. Crit.	−39,643.780	−26,062.190
Note:		†p<0.1; *p<0.05; **p<0.01

3.2 Fixed vs Random Effects

The model presented in the body of the paper uses district-level random effects in order to control for unobserved heterogeneity across school districts. Here, I show that replacing the random effects in the model with fixed effects and cluster standard errors has no impact. Table 3 confirms that the results of the fixed effect and random effects models are substantively identical.

Table 3: CA Vaccination (Fixed Effects)

	Dependent variable:	
	PBE Rate	Vaccination Rate
	(1)	(2)
2008 Dem Vote	-1.464^{**} (0.117)	2.270^{**} (0.086)
Obama Admin	0.450^{**} (0.113)	-0.656^{**} (0.097)
Obama Admin x 2008 Dem Vote	$-0.339^{\dagger}$ (0.183)	0.583^{**} (0.150)
Year	0.047^{**} (0.005)	0.014^{**} (0.004)
Median HH Income	1.051^{**} (0.002)	-0.675^{**} (0.002)
h % Black	131.203^{**} (0.130)	-86.505^{**} (0.194)
% Hispanic	-1.634^{**} (0.003)	-0.499^{**} (0.002)
% Asian	-19.555^{**} (0.017)	10.587^{**} (0.026)
% College	-8.860^{**} (0.018)	5.214^{**} (0.022)
% Urban	-1.818^{**} (0.001)	1.186^{**} (0.002)
Fixed Effects	X	X
Constant	-0.533^{**} (0.076)	0.444^{**} (0.072)
Note:		†p<0.1; *p<0.05; **p<0.01

3.3 Covariates

Here, I show that the results presented are robust to the exclusion of the time trend and/or district level covariates. Table 4 shows that excluding all of the covariates does not substantively change the results.

Table 4: CA Vaccination (No covars)

	Dependent variable:	
	PBE Rate	Vaccination Rate
	(1)	(2)
2008 Dem Vote	−0.699* (0.341)	−0.582** (0.201)
Obama Admin	0.821** (0.027)	−0.530** (0.014)
2008 Dem Vote x Obama Admin	−0.393** (0.047)	0.544** (0.022)
Constant	−3.880** (0.192)	2.886** (0.113)
Observations	10,009	10,009
Log Likelihood	−26,961.760	−54,711.480
Akaike Inf. Crit.	53,933.520	109,433.000
Bayesian Inf. Crit.	53,969.570	109,469.000
Note:		†p<0.1; *p<0.05; **p<0.01

Table 5 shows that dropping the time trend (Year) variable or the district-level covariates does not substantively changes the results. In summary, these results are highly robust to a wide variety of model specifications.

Table 5: CA Vaccination (Covariates)

	Dependent variable:			
	PBE Rate	Vaccination Rate	PBE Rate	Vaccination Rate
	(1)	(2)	(3)	(4)
2008 Dem Vote	−0.715* (0.340)	−0.598** (0.201)	0.902** (0.247)	−1.698** (0.190)
Obama Admin	0.452** (0.030)	−0.657** (0.016)	0.824** (0.027)	−0.530** (0.014)
2008 Dem Vote x Obama Admin	−0.342** (0.047)	0.584** (0.022)	−0.397** (0.047)	0.545** (0.022)
Year	0.047** (0.002)	0.014** (0.001)		
Median HH Income			−0.103† (0.057)	0.134** (0.044)
% Black			−2.793** (0.767)	0.632 (0.595)
% Hispanic			−4.518** (0.202)	2.285** (0.150)
% Asian			−4.311** (0.356)	2.197** (0.276)
% College			1.169** (0.428)	−0.393 (0.332)
% Urban			−0.244** (0.093)	0.276** (0.072)
Constant	−4.089** (0.191)	2.829** (0.113)	−3.163** (0.136)	2.593** (0.105)
Observations	10,009	10,009	10,009	10,009
Log Likelihood	−26,542.070	−54,533.880	−26,562.080	−54,490.980
Akaike Inf. Crit.	53,096.150	109,079.800	53,146.150	109,004.000
Bayesian Inf. Crit.	53,139.420	109,123.000	53,225.470	109,083.300
Note:				†p<0.1; *p<0.05; **p<0.01

4 Full Regression Tables

4.1 Survey Data

Table 6: Smallpox Safety

	Dependent variable:	
	Safety (Serious Illness)	Safety (Death)
Republican	–	–
Independent	-0.371*(0.156)	-0.217(0.16)
Democrat	-0.433**(0.163)	-0.33†(0.174)
Age	0.004(0.004)	0(0.004)
Female	-0.342**(0.125)	-0.299*(0.123)
HS Grad	0.067(0.239)	0.5*(0.24)
Technical School	0.013(0.441)	0.333(0.459)
Some College	0.254(0.244)	0.545*(0.25)
College Grad	0.782**(0.254)	1.236**(0.259)
Post Grad	0.531†(0.285)	0.978**(0.294)
Income $10,000 but less than $15,000	-0.017(0.322)	-0.228(0.383)
Income $15,000 but less than $20,000	0.164(0.359)	0.197(0.345)
Income $20,000 but less than $25,000	0.509(0.365)	-0.118(0.379)
Income $25,000 but less than $30,000	1.219**(0.333)	0.702*(0.354)
Income $30,000 but less than $40,000	0.988**(0.315)	0.417(0.339)
Income $40,000 but less than $50,000	0.832**(0.317)	0.703*(0.326)
Income $50,000 but less than $75,000	0.693*(0.286)	0.511(0.329)
Income $75,000 but less than $100,000	0.702*(0.304)	0.484(0.339)
Income $100,000 or more	0.605*(0.303)	0.346(0.371)
Black	-0.603*(0.252)	-0.783**(0.246)
Hispanic	-0.006(0.276)	-0.461(0.284)
Other	-0.49(0.298)	-0.472(0.295)
Very likely|Somewhat likely	-1.56**(0.363)	-2.147**(0.389)
Somewhat likely|Not very likely	0.22(0.358)	-0.566(0.379)
Not very likely|Not likely at all	2.175**(0.364)	1.3**(0.379)
Observations	961	967
Akaike Inf. Crit.	2422.644	2302.19
Note:	†p<0.1; *p<0.05; **p<0.01	

Table 7: Smallpox Vaccination

	Dependent variable:
	Vaccination
Republican	–
Independent	-0.572*(0.253)
Democrat	-0.588**(0.146)
Age	0.006(0.004)
Female	-0.158(0.136)
Some HS	0.546(0.7)
HS grad	-0.036(0.65)
Technical/Trade school	-0.535(0.72)
Some college	-0.129(0.661)
College grad	-0.409(0.668)
Post grad	-0.241(0.666)
income 10-14K	0.57(0.524)
income 15-20K	0.477(0.484)
income 20-30K	0.333(0.445)
income 30-50K	0.661(0.432)
income 50-75K	1.017*(0.449)
income >75K	0.856†(0.443)
Asian	0.472(0.554)
Black	0.074(0.286)
Hispanic	0.778*(0.311)
Other	-0.251(0.359)
(Intercept)	-0.296(0.76)
Observations	965
Akaike Inf. Crit.	1323.104
Note:	†p<0.1; *p<0.05; **p<0.01

Table 8: H1N1 Safety + Vaccination

	Dependent variable:	
	Safety	Vaccination
Democrat	–	–
Independent	-0.221(0.265)	-0.452(0.289)
Republican	-0.621**(0.132)	-0.455**(0.152)
Age	0.014**(0.004)	0.01*(0.004)
Female	-0.592**(0.125)	0.017(0.143)
Some high school	0.058(0.849)	-1.653(1.146)
Graduated high school	-0.315(0.821)	-1.952†(1.122)
Some college	-0.376(0.822)	-2.212*(1.124)
Graduated College	0.124(0.829)	-1.435(1.126)
Post-graduate	0.376(0.832)	-1.044(1.129)
income 100 thousand or more	0.382(0.245)	-0.268(0.278)
income 20 to under 35 thousand	0.045(0.229)	-0.247(0.26)
income 35 to under 50 thousand	0.159(0.229)	-0.171(0.271)
income 50 to under 75 thousand	0.338(0.224)	0.027(0.263)
income 75 to under 100 thousand	0.352(0.246)	-0.265(0.285)
Asian	-0.58(0.602)	0.88(0.637)
Black	-0.845**(0.244)	-0.58†(0.298)
Hispanic	-0.313(0.265)	-0.078(0.334)
Other	-0.207(0.283)	0.029(0.301)
Constant		1.064(1.147)
Somewhat confident|Very confident	1.359(0.852)	
Not so confident|Somewhat confident	-0.763(0.852)	
Not confident at all|Not so confident	-2.226**(0.855)	
Akaike Inf. Crit.	2388.275	1242.126
Observations	978	962
Note:		†p<0.1; *p<0.05; **p<0.01

Table 9: MMR Safety + Vaccination

	Dependent variable:	
	Safety	Vaccination
Democrat	–	–
Independent	-0.766^{**} (0.077)	-1.012^{**} (0.125)
Republican	-0.378^{**} (0.072)	-0.410^{**} (0.134)
Age	0.017^{**} (0.002)	0.025^{**} (0.003)
Female	0.267^{**} (0.059)	0.487^{**} (0.101)
Some HS	−0.156 (0.439)	0.254 (0.572)
HS grad	−0.066 (0.406)	0.259 (0.523)
Some college	0.019 (0.405)	0.547 (0.523)
College grad	0.195 (0.407)	0.671 (0.529)
Post Grad	0.492 (0.412)	$1.064^{\dagger}$ (0.553)
Asian	−0.186 (0.148)	0.384 (0.295)
Black	-0.417^{**} (0.089)	-0.503^{**} (0.145)
Hispanic	−0.130 (0.099)	−0.054 (0.161)
Other	−0.164 (0.165)	−0.391 (0.239)
Constant		0.754 (0.540)
Not at all| Not very	-2.795^{**} (0.419)	
Not very| Somewhat	-1.412^{**} (0.413)	
Somewhat| Very	0.655 (0.413)	
Observations	4,570	4,570
Log Likelihood		−1,442.736
Akaike Inf. Crit.		2,913.472
Note:		†p<0.1; *p<0.05; **p<0.01

4.2 Behavioral Data

Table 10: CA PBE and Vaccination Rates

	Dependent variable:	
	PBE Rate	Vaccination Rate
% 2008 Dem vote	0.889^{**} (0.247)	-1.714^{**} (0.190)
Obama Admin	0.454^{**} (0.030)	-0.657^{**} (0.016)
% 2008 Dem vote x Obama	-0.347^{**} (0.047)	0.585^{**} (0.022)
Year	0.047^{**} (0.002)	0.014^{**} (0.001)
% Black	-2.760^{**} (0.766)	0.643 (0.590)
% Hisp	-4.524^{**} (0.202)	2.283^{**} (0.150)
% Asian	-4.316^{**} (0.357)	2.199^{**} (0.276)
Median HH Income	$-0.102^{\dagger}$ (0.057)	0.133^{**} (0.044)
% Bacc	1.164^{**} (0.427)	−0.392 (0.333)
% Urban	-0.244^{**} (0.093)	0.275^{**} (0.072)
Constant	-3.373^{**} (0.136)	2.536^{**} (0.105)
Observations	10,009	10,009
Log Likelihood	−26,141.980	−54,313.440
Akaike Inf. Crit.	52,307.960	108,650.900
Bayesian Inf. Crit.	52,394.490	108,737.400
Note:		†p<0.1; *p<0.05; **p<0.01

Table 11: Controlling for Lagged Disease

	Dependent variable:	
	PBE Rate	Vaccination Rate
% 2008 Dem vote	0.762 (0.762)	-1.553^{*} (0.665)
Obama Admin	0.336^{**} (0.041)	-0.812^{**} (0.024)
% 2008 Dem vote x Obama	-0.443^{**} (0.071)	0.893^{**} (0.047)
VPD Rate	-665.099^{**} (36.115)	-207.596^{**} (17.859)
VPD Rate x Obama	347.527^{**} (40.989)	150.001^{**} (30.091)
Year	0.064^{**} (0.002)	0.010^{**} (0.001)
% Black	$-4.262^{\dagger}$ (2.358)	-0.295 (2.061)
% Asian	-5.466^{**} (1.227)	2.332^{*} (1.079)
% Hisp	-3.898^{**} (0.586)	1.974^{**} (0.512)
% Bacc	2.409 (1.713)	-1.940 (1.497)
Median HH Income	-1.232 (0.867)	$1.262^{\dagger}$ (0.758)
% Urban	$0.631^{\dagger}$ (0.372)	0.151 (0.321)
Constant	-130.781^{**} (3.525)	-16.693^{**} (1.810)
Observations	796	796
Log Likelihood	$-4,483.410$	$-9,727.869$
Akaike Inf. Crit.	8,994.820	19,483.740
Bayesian Inf. Crit.	9,060.334	19,549.250
Note:		$^{\dagger}p<0.1$; $^{*}p<0.05$; $^{**}p<0.01$

Table 12: Controlling for Lagged Vaccination

	Dependent variable:	
	PBE Rate	Vaccination Rate
% 2008 Dem vote	$0.429^{\dagger}$ (0.224)	-1.058^{**} (0.143)
Obama Admin	0.460^{**} (0.031)	-0.339^{**} (0.048)
% 2008 Dem vote x Obama	-0.230^{**} (0.048)	0.448^{**} (0.023)
Lag PBE Rate	3.171^{**} (0.124)	
Lag PBE x Obama	-1.756^{**} (0.101)	
Lag Vaccination Rate		3.003^{**} (0.047)
Lag Vaccination x Obama		-0.198^{**} (0.048)
Year	0.041^{**} (0.002)	0.016^{**} (0.001)
% Black	-2.232^{**} (0.685)	0.356 (0.433)
% Hisp	-4.135^{**} (0.184)	1.652^{**} (0.113)
% Asian	-4.016^{**} (0.317)	1.713^{**} (0.202)
Median HH Income	$-0.084^{\dagger}$ (0.051)	0.083^{*} (0.033)
% Bacc	1.188^{**} (0.385)	-0.296 (0.248)
% Urban	-0.179^{*} (0.083)	0.136^{**} (0.053)
Constant	-3.396^{**} (0.123)	-0.276^{**} (0.090)
Observations	9,936	9,936
Log Likelihood	−25,927.730	−51,141.210
Akaike Inf. Crit.	51,883.460	102,310.400
Bayesian Inf. Crit.	51,984.310	102,411.300
Note:		†p<0.1; *p<0.05; **p<0.01

Table 13: Controlling for Income Effects

	Dependent variable:	
	PBE Rate	Vaccination Rate
% 2008 Dem vote	0.894^{**} (0.247)	-1.665^{**} (0.190)
Obama Admin	0.460^{**} (0.030)	-0.609^{**} (0.016)
% 2008 Dem vote x Obama	-0.347^{**} (0.047)	0.509^{**} (0.023)
Median HH Income	-0.090 (0.057)	0.176^{**} (0.044)
Median HH Income x Obama	-0.020^{*} (0.008)	-0.080^{**} (0.004)
Year	0.047^{**} (0.002)	0.015^{**} (0.001)
% Black	-2.778^{**} (0.767)	0.639 (0.595)
% Hisp	-4.527^{**} (0.202)	2.282^{**} (0.150)
% Asian	-4.312^{**} (0.356)	2.192^{**} (0.277)
% Bacc	1.158^{**} (0.428)	-0.397 (0.334)
% Urban	-0.245^{**} (0.093)	0.275^{**} (0.072)
Constant	-3.377^{**} (0.136)	2.504^{**} (0.105)
Observations	10,009	10,009
Log Likelihood	−26,138.930	−54,136.080
Akaike Inf. Crit.	52,303.860	108,298.200
Bayesian Inf. Crit.	52,397.610	108,391.900
Note:		†p<0.1; *p<0.05; **p<0.01

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