# THE IMPACT OF COVID-19 RESTRICTIONS ON THE BELIEF IN COVID-19 CONSPIRACY THEORIES

by

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# THE IMPACT OF COVID-19 RESTRICTIONS ON THE BELIEF IN COVID-19 CONSPIRACY THEORIES

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## ABSTRACT

Governments responding to the 2020 coronavirus pandemic have forced billions of people around the world to stay at home and reduce the number of social interactions to stop the spread of the virus. While a multitude of health authorities and governmental bodies work continuously to mitigate the effects of the pandemic on individuals, conspiracy theories regarding the COVID-19 pandemic, its origins, and the severity of the virus have challenged these efforts. There is so much variation in belief in COVID-19 conspiracy theories, both between individuals (some people believe more than others) and between countries (conspiracy theories are more popular in some countries than others). In this research, I attempt to answer why we see this variation and how these variations impact people's health behaviors during the pandemic by performing a cross-sectional study in U.S. states with the least restrictive COVID-19 measures, and U.S. states where COVID-19 measures were strictly imposed. A survey is conducted to survey participants in the United States about popular COVID-19 conspiracy theories in order to measure the average belief in conspiracy of individuals. From my analysis, in California and New York, states with the strictest COVID-19 regulations, people were less likely to have a higher belief in the two COVID-19 conspiracy theories I discuss. For two of the least restrictive states, Florida and Texas, the analysis appears to show that the belief in conspiracy could still be largely decided based on one's party identification, despite the level of restrictiveness in the state.

## INTRODUCTION

Governments responding to the 2020 coronavirus pandemic have forced billions of people around the world to stay at home and reduce the amount of social interactions to stop the spread of the virus. While a multitude of health authorities and governmental bodies work continuously to mitigate the effects of the pandemic on individuals, conspiracy theories regarding the COVID-19 pandemic, its origins, and the severity of the virus have challenged these efforts. Some authorities have stated that support for particular conspiracy theories regarding COVID-19 play a significant role in how individuals support certain public health measures (De Coninck et al. 2021). These public health measures include but are not limited to mask wearing, social distancing, presenting proof of COVID-19 vaccination, and mandated COVID-19 testing ("How to Protect Yourself and Others").

Evidence shows that beliefs in COVID-19 conspiracy theories have a profound impact on whether or not an individual adheres to health guidelines (Freeman et al., 2020). Additionally, there have been scholarly interest groups of doctors, researchers, and lawyers that intentionally create COVID-19 propaganda regarding the virus's origins and those involved in the public health decisions (D'Ambrosio 2021). In this research, I determine why we see tremendous variation in COVID-19 conspiracy beliefs using a cross-national study. More specifically, I will focus on explaining why there is more belief in conspiracy theories in some countries than others. This area of research is significant to political science scholarship because the research question helps political scientists understand what factors make particular COVID-19 narratives popular, how conspiracy beliefs impact political factors (such as political stability), and how they might be able to counterclaim the narratives with empirical evidence.

## LITERATURE REVIEW

Conspiracy theories are a part of political culture in various ways, especially in a comparative context. Many theories disrupt citizens' trust in government and support for certain policies, which can make conspiracy theories dangerous for liberal-democratic societies (Hofstadter 1964). Other theories claim that conspiracy theories arise out of ignorance or are a product of manipulative governments (Pipes 1996). Daniel Pipes' research also highlights how conspiratorial thinking is especially common in Middle Eastern cultures. For example, Pipes demonstrates how conspiracies in the Middle East have been constructed by Syrian politicians, regional religious practices, and those growing up under authoritarian regimes (Pipes 1996). In terms of a comparative context, some conspiracy theories thrive more in other countries. Such theories are more commonly endorsed where residents are banned from taking part in political life, such as areas with lower levels of democracy. Political life activities include protests, demonstrations, and access to voting (Cordonier et al. 2021). Conspiracy theories also thrive in countries where unemployment rates are low and individuals feel socially threatened. Furthermore, countries where governmental institutions and authorities are viewed as corrupt and untrustworthy is another common area where conspiracy theories develop (Cordonier et al. 2021).

In the United States, one can see an example of conspiratorial thinking during the January 6th insurrection. Numerous conspiracy theories surrounding former President Donald Trump's loss resulting from voter fraud arose in the country. In fact, some of these conspiracy theories that originate in one part of the world travel to other regions of the world. For example, numerous QAnon conspiracy theories that originated in the United States traveled to regions such as Australia. The movement of the QAnon conspiracy theories to Australia even sparked more conspiracy theories related to a hypothesized cabal in opposition to Trump's presidency

and totalitarian agendas in the world (Badham 2021). At times, there can be cases where conspiracy theories end up being true or at least somewhat true.

Studies have also shown that political ideology and party identification are major parts of conspiracy theories when it comes to political culture. In one article, the authors' results show that conservatives tend to worry less about the coronavirus, whereas liberals cared more about the disease outbreak due to political beliefs (Conway et al. 2021). Furthermore, the political beliefs held by both conservatives and liberals played a key role within each individual's determination to assess the pandemic as more or less of a threat. That means that conservatives generally do not want government restrictions, whereas liberals favored more government intervention to stop the spread of the disease (Conway et al. 2021). Overall, the study concluded that it was ideological beliefs that were associated with the variation of beliefs about the threat of COVID-19. Similar findings lead researchers to believe that more right-wing individuals are more prone to belief in conspiracy theories, especially when it comes to conspiracy theories related to COVID-19. Evidence suggests that individuals who lean more conservative are more likely to endorse conspiracy thinking. One of the main reasons researchers see the trend with more conservative people is because those who lean more conservative tend to have a higher distrust in officials and more paranoid tendencies (Ellwood 2020). In fact, the same concept of ideological beliefs can be applied to entire countries that tend to lean more conservative or more liberal when it comes to COVID-19 restrictions and conspiracy beliefs related to those government regulations (Ellwood 2020).

Conspiracy theories are typically structured on the notion that there is a malicious, influential, and powerful group of individuals acting behind the scenes of an event or situation. Conspiracy theories generally refer to and are defined as a hypothesized cabal that includes

specific characteristics (Brotherton, French and Pickering 2013). For example, when it comes to COVID-19 conspiracy theories, these theories are usually in opposition to key players, such as doctors and scientists, that are behind the mainstream consensus of what individuals should believe about COVID-19, its origins, and the implications that have arisen from the effects of the virus. Thus, it is not shocking that those that believe in conspiracy theories are more likely to not trust authorities and experts (Pummerer et al. 2021).

There are a variety of ways governments have attempted to conquer, or at least mitigate, the COVID-19 pandemic. Some countries implemented a national lockdown that banned people from using transportation services, going to their workplace each day, attending school, and doing non-essential shopping. Of course, there were certain exceptions in the case of an emergency. However, some countries, such as Italy, required documentation to leave outside of the home in any instance ("Here's The Form You Need To Leave The House In Italy Over Christmas" 2020). Countries such as New Zealand were able to declare their country COVID-free at times due to their implementation of more restrictive regulations, such as national quarantine facilities and multiple state-wide lockdowns ("New Zealand Military To Oversee Quarantine Facilities After New COVID-19 Case" 2020). Any individuals in these places that disobeyed the restrictions were met with fines and even jail time in certain cases.

Other countries avoided lockdowns and stricter measures, such as Sweden. For example, Sweden initially tried to develop herd immunity in the country, which means a population becomes immune to a disease (Plumper and Neumayer 2020). As we crossed the one-year mark of the pandemic, we began to see a roll out of COVID-19 vaccines, which seemed to cause more speculation and narratives against authorities, experts, and vaccine efficacy. As a result, these speculations continued to help circulate COVID-19 conspiracy theories, and formulated new

theories relating to the COVID-19 vaccine and the intentions behind it (Islam et al. 2021).

While there are numerous conspiracy theories related to COVID-19, the most popular theories surround beliefs related to the virus's origin, 5G cell towers spreading the virus, and how COVID-19 is part of a bioweapon created and funded by several powerful elites in the world (Earnshaw et al. 2020). Studies have confirmed that these conspiracy theories have been related to negative societal effects, such as low institutional trust and less support for pandemic restrictions and regulations (Pummerer et al. 2021). Other studies have even attempted to hypothesize about the link between belief in COVID-19 conspiracy theories and the likelihood of contracting the COVID-19 virus (van Prooijen et al. 2021). These studies test the relationship between COVID-19 conspiracy theories with specific variables.

Existing scholarship has generally tested the relationships between COVID-19 conspiracy theory beliefs and specific variables, such as institutional trust, support for government regulations related to COVID-19, and support for various public health measures. For example, a study conducted in 2014 found that being confronted with a conspiracy theory related to anti-vaccination information decreased participants' intentions to receive a vaccination (Jolley and Douglas 2014). Another study concerning the idea of social distancing found that those that tend to believe in COVID-19 conspiracy theories reduced their willingness to social distance over time (Bierwiaczonek, Kunst and Pich 2020). However, there is so much variation in belief in COVID-19 conspiracy theories, both between individuals (some people believe more than others) and between states (conspiracy theories are more popular in some states than others). Therefore, I theorize about why we see this variation and how these variations impact people's health behaviors during the pandemic by performing a study with U.S. states with the least restrictive COVID-19 measures and states where COVID-19 measures were strictly

imposed.

I predict that these variations we see in COVID-19 conspiracy beliefs and health behaviors are due to the impact caused by COVID-19 restrictions and regulations imposed by governments in different states. The implementation of stricter coronavirus restrictions could mean that people are less prone to believing in COVID-19 conspiracy theories about the agenda of their governments. This could be due to the fact that state-sponsored information and state-wide restrictions set part of the COVID-19 narrative for individuals, so they are less likely to theorize on their own about other truth alternatives. In contrast, states where governments implemented less restrictive alternatives to combat the virus could mean that residents are more likely to believe in COVID-19 conspiracy theories about their governments. If states are more lenient on restrictions and downplay the true impact of the virus when compared to other states, people could be more likely to look towards conspiracy theories for a source of truth.

My theory is that people who lived in U.S. states during the pandemic with more restrictive COVID-19 measures are less likely to believe in COVID-19 conspiracy theories, which, in return, positively impacts their health behaviors. Conspiracy-prone individuals tend to respond negatively to regulations and implementations when these regulations come from governments that the conspiracy-prone people have low institutional trust in (Ellwood 2020). Thus, I hypothesize that if an individual resided in a more restrictive region during the COVID-19 pandemic, then the less likely they are to believe in COVID-19 related conspiracy theories. Lastly, based on existing literature, I also predict that more liberal individuals have a lower belief in conspiracy and more conservative individuals have a higher belief in conspiracy.

## RESEARCH DESIGN

The scope and boundaries of my study are mainly limited to certain states within the United States. The responses from the collected survey data will be limited in a way that the data only comes from those that were at least living in the United States at the time of the coronavirus pandemic starting in February 2020.

To perform my study, I will conduct survey research and analyze data that focuses on local and national reactions to the pandemic. For the survey, I will use Qualtrics to conduct survey research and survey participants in the United States. To test my hypothesis, I will conduct a large-N statistical analysis from the survey. To perform the statistical analysis, I will create multivariate models and use ordinary least-squares (OLS) regression. The main concept I attempt to explain is the variation in belief of COVID-19 conspiracy theories. My dependent variable is the average conspiracy belief. Survey respondents will be asked to rate the degree to which they believe in several different conspiracy theories. Then, I will average the belief responses for each respondent to create the average conspiracy belief.

My independent variable is party identification. Party identification (labeled as 'Republicanism') refers to which political party a survey respondent most closely identifies with and will be measured on a scale of 1 to 7 (1= strong Democrat and 7= strong Republican). I define a restrictive COVID-19 area as one that implements more restrictive means for public health reasons and for individuals that choose to not comply with government orders such as vaccine mandates, proof of vaccinations, quarantine requirements for entry and exit into the region, quarantine facilities, jail time, and fines. Less restrictive COVID-19 areas are those that encourage recommendations rather than enforcing regulations such as recommended mask wearing, social distancing, and areas that recommend receiving the coronavirus vaccine. The strictness of COVID-19 policies will be based on a scale of 1 to 7 (1=least restrictive and 7=most

restrictive). Data for this information is analyzed from the COVID-19 Policy Tracker from MultiState.

My control variables are (1) ideology ((labeled as 'Conservatism'), (2) education, (3) religiosity, (4) age, and (5) gender identity[1]. Each variable will be reported by the participant at the beginning of the survey. Ideology refers to what level a survey participant characterizes their set of opinions and beliefs. Ideology will be measured using a scale of 1 to 7 (1= extremely liberal and 7= extremely conservative). Education refers to the average level of education a participant has obtained. On a scale of 1 to 7 (1= did not graduate high school and 7= doctorate-level advanced degree). Lastly, religiosity refers to the level of religiosity among a survey respondent that will be reported by the individual and measured on a scale of 1 to 7 (1= not at all religious and 7= very religious). Age and gender will be reported by each survey participant as well. Altogether, these control variables are several important demographic and political factors that impact belief in COVID-19 conspiracy theories, according to existing scholarship.

In terms of other operational definitions relevant to the study, I will define a COVID-19 conspiracy theory as the belief that significant political events or trends (specifically measures relating to the COVID-19 pandemic) are the results of plots enacted by political figures in power or political groups of people. Furthermore, conspiracy theories are those that typically oppose the standard explanation for political events related to COVID-19. Each COVID-19 conspiracy theory presented in the survey shall meet this definition requirement. Conspiracy theories presented in the survey will be selected based on popularity among world leaders and groups from Table 1 in the Enders et al. 2021 survey (see Figure 1).

[1] Gender identity variable will not be discussed in each regression table due to Honors project time constraints.

| Conspiracy/Misinformation Belief Question | % Agree / Strongly Agree |
|---|---|
| 1. The number of deaths related to the coronavirus has been exaggerated. (*Deaths*) | 29 |
| 2. The threat of coronavirus has been exaggerated by political groups who want to damage President Trump. (*Threat*) | 28 |
| 3. Coronavirus was purposely created and released by powerful people as part of a conspiracy. (*Bioweapon*) | 27 |
| 4. The coronavirus is being used to force a dangerous and unnecessary vaccine on Americans. (*Vaccine*) | 25 |
| 5. Ultra-violet (UV) light can prevent or cure COVID-19 (*UV Light*) | 19 |
| 6. The coronavirus is being used to install tracking devices inside our bodies. (*Tracking*) | 18 |
| 7. Hydroxychloroquine can prevent or cure COVID-19 (*Hydroxy*) | 18 |
| 8. COVID-19 can't be transmitted in areas with hot and humid climates (*Hot/Humid*) | 18 |
| 9. Bill Gates is behind the coronavirus pandemic. (*Gates*) | 13 |
| 10. Putting disinfectant into your body can prevent or cure COVID-19 (*Disinfectant*) | 12 |
| 11. The dangers of 5G cellphone technology are being covered up. (*5G*) | 11 |

Figure 1: Questions About Beliefs in Conspiracy Theories and Misinformation and the Percentage of the Mass Public That Either "Agree" or "Strongly Agree." (from Table 1 in Enders et al. 2021 study)

The survey was administered between June 4-17, 2020 to 1,040 adults (Enders et al. 2021). In Figure 1, Question 2 will be changed to read as, "The threat of coronavirus has been exaggerated by political groups who want to damage other world leaders". Question 4 will be changed to read as, "The coronavirus is being used to force a dangerous and unnecessary vaccine on other groups". The aforementioned changes aid my research in the comparative context, as it reflects COVID-19 conspiracy theories targeted towards people in general versus only Americans. Furthermore, to analyze the restrictiveness of COVID-19 regulations in the United States, I will use data from Our World In Data that provides data per country for regulations such as school and workplace closures, stay-at-home restrictions, face coverings, public information campaigns, travel, testing and contact tracing, vaccination policy, and stringency index information.

## ANALYSIS AND RESULTS

The survey sample size was 1,040 respondents. To perform a cross-sectional study, I decided to choose two of the most restrictive U.S. states and two of the least restrictive states in

terms of COVID-19 restrictions. California and New York are ranked a '7' of most restrictive and Texas and Florida are ranked a '1' of least restrictive. To rank the U.S. states, a consideration of the state's COVID-19 restrictions was taken into account. For example, California and New York both implemented mandatory vaccine and quarantine requirements supplemented by mask mandates, curfews, and the closing of businesses. In contrast, Texas and Florida did not mandate vaccines and simply provided COVID-19 recommendations instead of forcing restrictions upon residents. In the survey, a respondent's U.S. state was determined by which state one resided in most frequently during the beginning phases of the pandemic (February 2020 to January 2021). 11.9% of respondents lived in California and 5.6% of respondents lived in New York. 6.7% of respondents lived in Texas and 7.3% reported living in Florida. Overall, the populations of California and New York tend to lean more Democrat and the populations of Texas and Florida tend to lean more Republican in terms of party identification. To test my hypothesis, I first compared party identification to specific COVID-19 conspiracy theories in the survey. Then, I compared each conspiracy theory to the responses in the most restrictive and least restrictive states.

**Conspiracy Theory #1: The number of deaths related to the coronavirus has been exaggerated.**

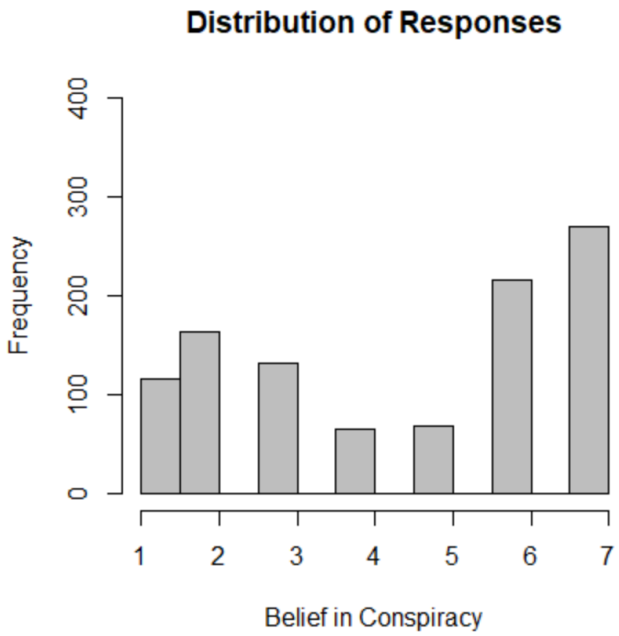


Figure 2: Distribution of Conspiracy Theory #1

First, I chose Conspiracy Theory #1 about the number of deaths related to the coronavirus being exaggerated. Belief in conspiracy for all conspiracy theories presented in the survey was measured on a scale of 1 to 7 (1 = strongly agree and 7 = strongly disagree). The distribution of the conspiracy theory question was interesting as the survey responses to theory formed a bimodal distribution. The bimodal distribution indicates that there are two different peaks of data, whereas Normal distributions only have one. This indicates that the responses to the particular conspiracy theory resulted in two different groups of responses. As many people have a lower belief in conspiracy theories, it was interesting to see another peak of data within the 'somewhat agree' to 'strongly agree' range of responses. Next, I performed an OLS regression analysis on the belief in conspiracy theory #1 and party identification and generated a table displaying coefficients for each relationship. I also integrated control variables into my model: gender identity, age, education, religiosity, and ideology.

**Table 1: OLS Regression Results**

| | Belief in Conspiracy |
|---|---|
| | COVID-19 Conspiracy Theory: The number of deaths related to the coronavirus has been exaggerated |
| Republicanism | -0.2188636*** |
| | (0.05067605) |
| Gender Identity | -0.1320076 |
| | (0.09996481) |
| Age | 0.1794178*** |
| | (0.0477438) |
| Education | -0.01465411 |
| | (0.04502835) |
| Religiosity | -0.2231774*** |
| | (0.03337146) |
| Conservatism | -0.3318365*** |
| | (0.05281871) |
| Constant | 6.770498*** |
| | (0.3133221) |
| Observations | 1,035 |
| $R^2$ | 0.2846418 |
| Adjusted $R^2$ | 0.2804666 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

The models represent multivariate OLS regression models; Coefficients are in cells, standard errors are presented in parenthesis below.

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, for each one-unit increase in party identification toward strong Republican, we can expect the belief in conspiracy to decrease by 0.21, meaning that one is more likely to agree with the conspiracy theory. This finding is as expected since individuals that lean more Democrat tend to have a lower belief in conspiracy, and individuals that lean more Republican tend to have a higher belief in conspiracy. For every one increase in a person's age, we can expect the belief in conspiracy to increase by 0.17. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #1 to decrease. The finding aligns with what current literature says as older people tend to be more susceptible to sickness, thus, it makes sense for them to believe that the number of deaths related to the coronavirus is not being exaggerated.

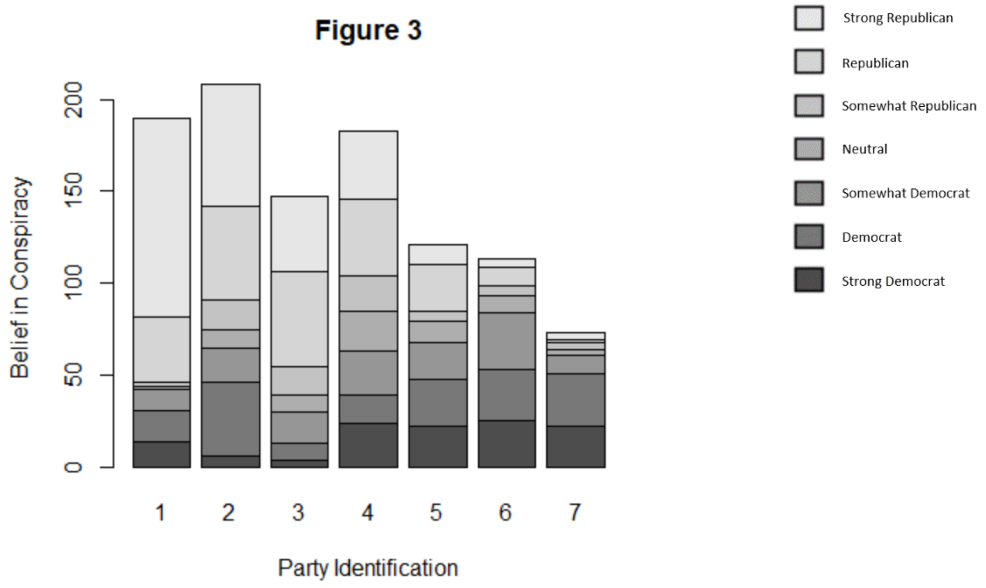


Figure 3: Distribution of Belief in Conspiracy and Party Identification

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.01, meaning the more educated one is, the less likely they are to agree with the conspiracy theory. Interestingly, this finding for the education variable is not statistically significant. From the literature, education tends to play a bigger role as the more educated one is, the less likely one is to believe in conspiracy theories. It is interesting to find that education in my survey sample does not play a huge factor in the relationship with Conspiracy Theory #1. On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.22, meaning one is more likely to agree with the conspiracy theory. The less religious one is, the less likely one's belief in Conspiracy Theory #1 is. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #1.

Coefficient estimates represent values from 0 to 1 (or 0% to 100%). The closer a coefficient estimate moves towards 1, the stronger the relationship between the two variables. When comparing coefficient estimates of religiosity to party identification, the coefficient

estimates are of similar magnitudes. The coefficient estimate for party identification is -0.21 and the coefficient estimate for religiosity is -0.22. Traditionally, party identification and religiosity are independent of each other, meaning these variables are able to stand alone and not be influenced by other variables integrated. Thus, it is interesting to see that my survey results yielded similar coefficients for two variables that are independent of each other.

On a scale of extremely liberal to extremely conservative, one's belief in conspiracy is expected to decrease by -0.33. This means that as one identifies closer to extremely conservative, the more likely one is to agree with Conspiracy Theory #1. Also, a six-unit change in the ideology scale is equivalent to a two-unit change in the belief in conspiracy scale, so, all else equal, the extremely conservative are 2 scale points (neutral to agree) more likely to believe in Conspiracy Theory #1. In contrast, the more likely one is to be extremely liberal, the less likely one is to agree with the conspiracy theory. Party identification, gender identity, age, religiosity, and ideology are statistically significant findings, meaning that the relationship between each variable and the belief in Conspiracy Theory #1 would most likely not occur by random chance.

**Conspiracy Theory #2: The threat of coronavirus has been exaggerated by political groups who want to damage President Trump.**

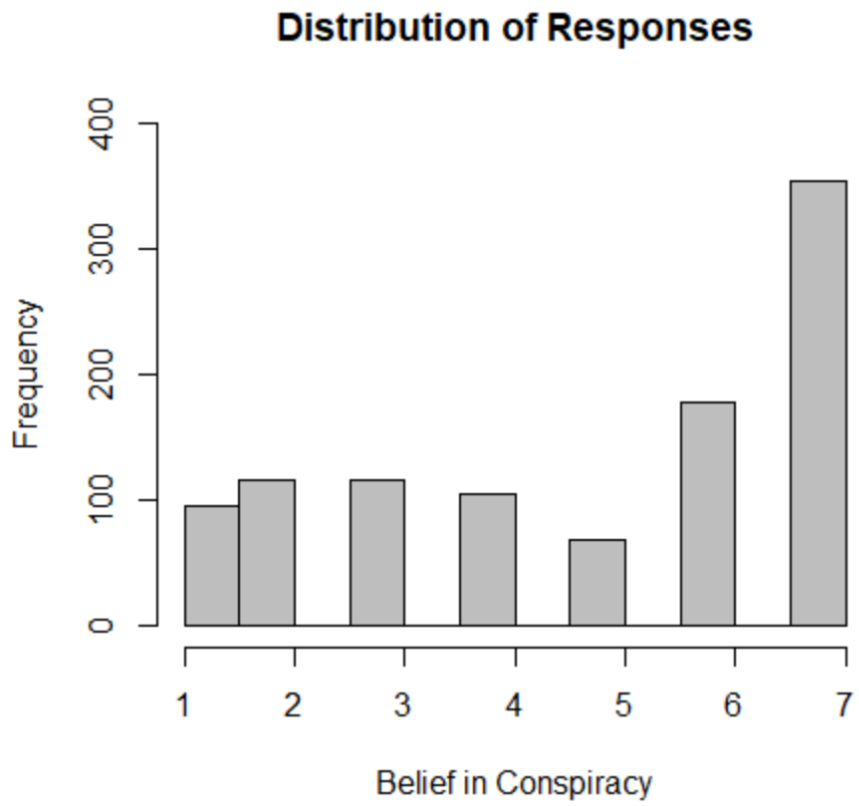


Figure 4: Distribution of Conspiracy Theory #2

Since more liberal respondents are less likely to agree with conspiracy theories, it makes sense for the distributions of conspiracy theories #3 through #9 to have distributions skewed to the right. However, Conspiracy Theory #1 was interesting as the distribution appears bimodal. Conspiracy Theory #2's distribution is another example of a bimodal distribution where there appears to be two different peaks of data within the same distribution. Thus, I chose to analyze Conspiracy Theory #2 because the distribution appeared slightly bimodal. Table 2 displays the coefficient estimates for the relationship between belief in conspiracy and party, gender identity, age, education, religiosity, and ideology.

**Table 2: OLS Regression Results**

| | Belief in Conspiracy |
|---|---|
| | COVID-19 Conspiracy Theory: The threat of coronavirus has been exaggerated by political groups who want to damage President Trump. |
| Republicanism | -0.2539627*** |
| | (0.04666918) |
| Gender Identity | -0.1898001** |
| | (0.09206077) |
| Age | 0.2321802*** |
| | (0.04396878) |
| Education | -0.02144829 |
| | (0.04146804) |
| Religiosity | -0.1939932*** |
| | (0.03073284) |
| Conservatism | -0.3797297*** |
| | (0.04864242) |
| Constant | 7.272402*** |
| | (0.2885483) |
| Observations | 1,035 |
| $R^2$ | 0.3602609 |
| Adjusted $R^2$ | 0.356527 |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |
| | The models represent multivariate OLS regression models; Coefficients are in cells, standard errors are presented in parenthesis below. |

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to decrease by 0.25, meaning that one is more likely to agree with the conspiracy theory. This finding is as expected since individuals that lean more Democrat tend to have a lower belief in conspiracy, and individuals that lean more Republican tend to have a higher belief in conspiracy. For every one year increase in a person's age, we can expect the belief in conspiracy to increase by 0.23. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #2 to decrease.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.02, meaning the more educated one is, the less likely they are to agree with the conspiracy theory. Interestingly, this finding for the education variable is not statistically significant, similar to the education variable in the analysis for Conspiracy Theory #1. It is interesting to find that education in my survey sample does not play a huge factor in the relationship with Conspiracy Theory #2. It could be possible that party identification absorbs the effect that education might otherwise have. On a scale of not at all religious to very

religious, the more religious one is, their belief in conspiracy decreases by 0.19, meaning one is more likely to agree with the conspiracy theory. The less religious one is, the less likely one's belief in Conspiracy Theory #2 is. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #2.

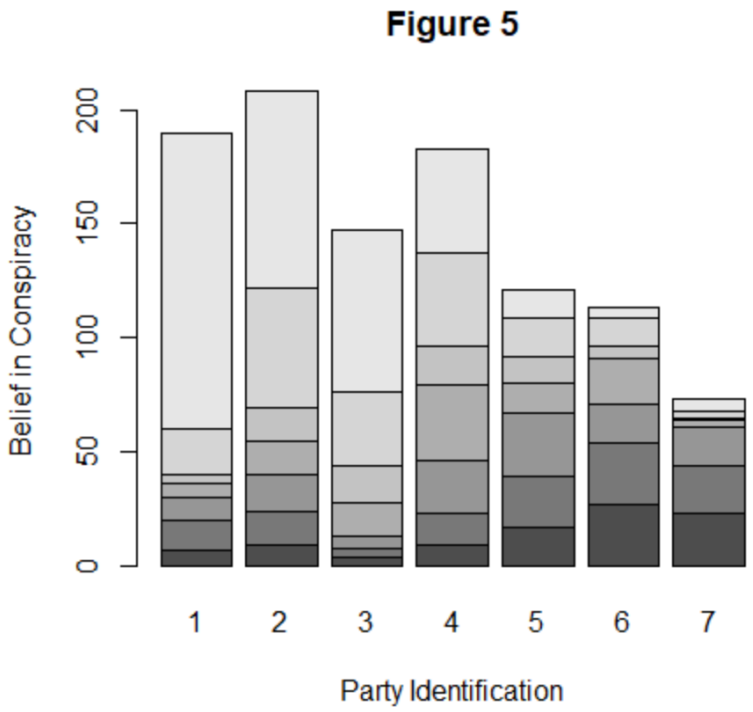


Figure 5: Distribution of Belief in Conspiracy and Party Identification

On a scale of extremely liberal to extremely conservative, one's belief in conspiracy is expected to decrease by -0.37. This means that as one identifies closer to extremely conservative, the more likely one is to agree with Conspiracy Theory #2. In contrast, the more likely one is to be extremely liberal, the less likely one is to agree with the conspiracy theory. Party identification, gender identity, age, religiosity, and ideology are statistically significant findings, meaning that the relationship between each variable and the belief in Conspiracy Theory #2 would most likely not occur by random chance. In other words, statistically significant findings

mean that the relationship is unlikely to be explained solely by random chance or other factors. Thus, statistically significant results yield more confidence in research findings.

When comparing coefficient estimates of religiosity to party identification, the coefficient estimates are not of magnitudes compared to the coefficient estimates in Conspiracy Theory #1. The coefficient estimate for party identification in this model is -0.25 and the coefficient estimate for religiosity is -0.19. It is interesting to see that my survey results for Conspiracy Theory #2 yielded different coefficients when compared to party identification and religiosity in Conspiracy Theory #1.

## Conspiracy Theory #1 Analysis by Most Restrictive U.S. States: California and New York

The two most restrictive states in terms of COVID-19 restrictions are California and New York. Table 3 represents regression analysis results for each restrictive state with model (1) representing California and model (2) representing New York.

### California

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to decrease by 0.29, meaning that one is more likely to agree with the conspiracy theory. For every one increase in a person's age, we can expect the belief in conspiracy to decrease by 0.01. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #1 in California to decrease.

**Table 3: OLS Regression Results of Most Restrictive States: California and New York**

| | Belief in Conspiracy | |
|---|---|---|
| | The number of deaths related to the coronavirus has been exaggerated. | |
| | (1) | (2) |
| Republicanism | -0.294974* | 0.0001459324 |
| | (0.1522568) | (0.2121408) |
| Gender Identity | -0.06257795 | 0.3090933 |
| | (0.3173591) | (0.3673149) |
| Age | 0.1340001 | -0.006681253 |
| | (0.1807278) | (0.21616) |
| Education | -0.01072821 | -0.006727451 |
| | (0.162957) | (0.2507484) |
| Religiosity | -0.2344711** | -0.2421323 |
| | (0.1054091) | (0.1808695) |
| Conservatism | -0.321313** | -0.6125273** |
| | (0.1569393) | (0.2290929) |
| Constant | 6.785294*** | 6.882366*** |
| | (1.092582) | (1.623563) |
| Observations | 123 | 58 |
| $R^2$ | 0.278058 | 0.3818414 |
| Adjusted $R^2$ | 0.2407162 | 0.3091169 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

The models represent multivariate OLS regression models; Coefficients are in cells, standard errors are presented in parenthesis below. (1) Represents California and (2) Represents New York

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.01, meaning the more educated one is, the less likely they are to agree with the conspiracy theory in California. Interestingly, this finding for the education variable is not statistically significant, similar to the education variable in the analysis for Conspiracy Theory #1 and Conspiracy Theory #2. It is interesting to find that education in my survey sample does not play a huge factor in the relationship with Conspiracy Theory #1 when looking at California specifically.

On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.23, meaning one is more likely to agree with the conspiracy theory in California. The less religious one is, the less likely one's belief in Conspiracy Theory #1 is in California. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #1 in California. On a scale of extremely liberal to extremely conservative, one's belief in conspiracy rating is expected to decrease by -0.32, which moves their tendency to believe in a conspiracy theory closer to strongly agree. This means that as one identifies closer to extremely

conservative, the more likely one is to agree with Conspiracy Theory #1. In contrast, the more likely one is to be extremely liberal, the less likely they are to agree.

Party identification, religiosity, and ideology are the only statistically significant results in the California model. In comparison to the general Conspiracy Theory #1 analysis, gender identity and age are not statistically significant in the California-specific model for Conspiracy Theory #1.

**New York**

In total, there were 58 respondents that lived in New York during the beginning of the pandemic. One limitation of my study is the results of New York only come from a small proportion of the total number of respondents. However, despite limitations, it is still interesting to see how individuals respond to each conspiracy theory.

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to increase by 0.00014, meaning that one is more likely to disagree with the conspiracy theory in New York. In other words, as one identifies closer to strong Republican in New York, one is slightly more likely to disagree with Conspiracy Theory #1. Ideally, one could expect the opposite as Republicans are more likely to agree with conspiracy theories. However, the 0.00014 coefficient result was not statistically significant, meaning it likely occurred due to chance. For every one increase in a person's age, we can expect the belief in conspiracy to decrease by 0.0067. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #1 in California to increase. In other words, older people are more likely to disagree with Conspiracy Theory #1.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.0067, meaning the more educated one is, the less likely

they are to agree with the conspiracy theory in New York. Interestingly, this finding for the education variable is not statistically significant, similar to the education variable in the analysis for Conspiracy Theory #1 and Conspiracy Theory #2. It is interesting to find that education in my survey sample does not play a huge factor in the relationship with Conspiracy Theory #1 when looking at New York specifically. On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.24, meaning one is more likely to agree with the conspiracy theory in New York. The less religious one is, the less likely one's belief in Conspiracy Theory #1 is in New York. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #1 in New York.

Ideology is the only statistically significant result in the New York model. In comparison to the general Conspiracy Theory #1 analysis, party identification, age, and religiosity are not statistically significant in the New York-specific model.

**Conspiracy Theory #2 Analysis by Most Restrictive U.S. States: California and New York**

Table 4 represents regression analysis results for each restrictive state with model (1) representing California and model (2) representing New York for Conspiracy Theory #2.

**Table 4: OLS Regression Results of Most Restrictive States: California and New York**

| | Belief in Conspiracy | |
|---|---|---|
| | The threat of coronavirus has been exaggerated by political groups who want to damage President Trump. | |
| | (1) | (2) |
| Republicanism | -0.1758889 | -0.2263342 |
| | (0.136401) | (0.1927291) |
| Gender Identity | 0.07214351 | -0.06687327 |
| | (0.2843099) | (0.3337043) |
| Age | 0.216737 | 0.002379037 |
| | (0.1619071) | (0.1963806) |
| Education | -0.1038612 | -0.1785587 |
| | (0.1459869) | (0.227804) |
| Religiosity | -0.215051** | -0.297954* |
| | (0.09443195) | (0.1643192) |
| Conservatism | -0.3952953*** | -0.4303805** |
| | (0.1405959) | (0.2081301) |
| Constant | 7.125037*** | 8.769672*** |
| | (0.9788027) | (1.475001) |
| Observations | 123 | 58 |
| $R^2$ | 0.3142303 | 0.4424851 |
| Adjusted $R^2$ | 0.2787595 | 0.3768951 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

The models represent multivariate OLS regression models; Coefficients are in cells, standard errors are presented in parenthesis below. (1) Represents California and (2) Represents New York

## California

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to decrease by 0.17, meaning that one is more likely to agree with the conspiracy theory in California as one identifies closer to strong Republican. For every one increase in a person's age, we can expect the belief in conspiracy to increase by 0.21. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #2 in California to decrease. In other words, older people are more likely to disagree with Conspiracy Theory #2 in California.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.10, meaning the more educated one is, the less likely they are to agree with the conspiracy theory in California. On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.21, meaning one is more likely to agree with the conspiracy theory in California. The less religious one is, the less likely one's belief in Conspiracy Theory #2 is in California. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #2 in California.

Religiosity and ideology are the only statistically significant result in the California model. In comparison to the general Conspiracy Theory #2 analysis, party identification, gender identity, age, and education are not statistically significant in the California-specific model.

**New York**

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to decrease by 0.22, meaning that one is more likely to agree with the conspiracy theory in New York as one identifies closer to strong Republican. For every one increase in a person's age, we can expect the belief in conspiracy to increase by 0.0023. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #2 in New York to decrease. In other words, older people are more likely to disagree with Conspiracy Theory #2 in New York.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.17, meaning the more educated one is, the less likely they are to agree with the conspiracy theory in New York. On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.29, meaning one is more likely to agree with the conspiracy theory in New York. The less religious one is, the less likely one's belief in Conspiracy Theory #2 is in New York.

Religiosity and ideology are the only statistically significant result in the New York model. In comparison to the general Conspiracy Theory #2 analysis, party identification, gender identity, age, and education are not statistically significant in the New York-specific model.

## Conspiracy Theory #1 Analysis by Least Restrictive U.S. States: Florida and Texas

**Table 5: OLS Regression Results of Least Restrictive States: Florida and Texas**

| | Belief in Conspiracy | |
|---|---|---|
| | The number of deaths related to the coronavirus has been exaggerated. | |
| | (1) | (2) |
| Republicanism | -0.08657756 | 2.925887* |
| | (0.1803614) | (1.25289) |
| Gender Identity | -0.3031 | 2.552241 |
| | (0.4086995) | (1.390558) |
| Age | 0.3017625* | 0.9190371 |
| | (0.1535684) | (0.7806585) |
| Education | -0.02701127 | -0.269044 |
| | (0.1481021) | (0.4727257) |
| Religiosity | -0.1125543 | -0.4581073 |
| | (0.1193646) | (0.6230742) |
| Conservatism | -0.4588922** | -3.480075** |
| | (0.1736509) | (1.213725) |
| Constant | 6.641166*** | 4.08618 |
| | (1.17807) | (3.472326) |
| Observations | 76 | 11 |
| $R^2$ | 0.2802459 | 0.8508013 |
| Adjusted $R^2$ | 0.2176586 | 0.6270031 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

The models represent multivariate OLS regression models; Coefficients are in cells, standard errors are presented in parenthesis below. (1) Represents Florida and (2) Represents Texas

The two least restrictive states in terms of COVID-19 restrictions are Florida and Texas. Table 5 represents regression analysis results for each least state with model (1) representing Florida and model (2) representing Texas.

### Florida

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to decrease by 0.08, meaning that one is more likely to agree with the conspiracy theory as one identifies closer to strong Republican. For every one increase in a person's age, we can expect the belief in conspiracy to decrease by 0.30. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #1 in Florida to increase.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.02, meaning the more educated one is, the less likely they are to agree with the conspiracy theory in Florida.

On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.11, meaning one is more likely to agree with the conspiracy theory in Florida. The less religious one is, the less likely one's belief in Conspiracy Theory #1 is in Florida. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #1 in Florida. On a scale of extremely liberal to extremely conservative, one's belief in conspiracy rating is expected to decrease by -0.45, which moves their tendency to believe in a conspiracy theory closer to strongly agree. This means that as one identifies closer to extremely conservative, the more likely one is to agree with Conspiracy Theory #1. In contrast, the more likely one is to be extremely liberal, the less likely they are to agree.

Age and ideology are the only statistically significant results in the Florida model. In comparison to the general Conspiracy Theory #1 analysis, party identification and religiosity are not statistically significant in the Florida-specific model for Conspiracy Theory #1.

**Texas**

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to increase by 2.92[2], meaning that one is more likely to disagree with the conspiracy theory as one identifies closer to strong Republican. For every one increase in a person's age, we can expect the belief in conspiracy to increase by 0.91[3]. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #1 in Texas to increase.

[2] The high coefficient may cause model estimation problems, but for purposes of comparison, the model will remain as is.

[3] The high coefficient may cause model estimation problems, but for purposes of comparison, the model will remain as is.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.26, meaning the more educated one is, the less likely they are to agree with the conspiracy theory in Texas.

On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.45, meaning one is more likely to agree with the conspiracy theory in Texas. The less religious one is, the less likely one's belief in Conspiracy Theory #1 is in Texas. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #1 in Texas. On a scale of extremely liberal to extremely conservative, one's belief in conspiracy rating is expected to decrease by 3.48[4], which moves their tendency to believe in a conspiracy theory closer to strongly agree. This means that as one identifies closer to extremely conservative, the more likely one is to agree with Conspiracy Theory #1. In contrast, the more likely one is to be extremely liberal, the less likely they are to agree.

Party identification and ideology are the only statistically significant results in the Texas model. In comparison to the general Conspiracy Theory #1 analysis, party identification and religiosity are not statistically significant in the Texas-specific model for Conspiracy Theory #1.

**Conspiracy Theory #2 Analysis by Least Restrictive U.S. States: Florida and Texas**

[4] The high coefficient may cause model estimation problems, but for purposes of comparison, the model will remain as is.

**Table 6: OLS Regression Results of Least Restrictive States: Florida and Texas**

| | Belief in Conspiracy | |
|---|---|---|
| | The threat of coronavirus has been exaggerated by political groups who want to damage President Trump. | |
| | (1) | (2) |
| Republicanism | -0.1758889 | -0.2263342 |
| | (0.136401) | (0.1927291) |
| Gender Identity | 0.07214351 | -0.06687327 |
| | (0.2843099) | (0.3337043) |
| Age | 0.216737 | 0.002379037 |
| | (0.1619071) | (0.1963806) |
| Education | -0.1038612 | -0.1785587 |
| | (0.1459869) | (0.227804) |
| Religiosity | -0.215051** | -0.297954* |
| | (0.09443195) | (0.1643192) |
| Conservatism | -0.3952953*** | -0.4303805** |
| | (0.1405959) | (0.2081301) |
| Constant | 7.125037*** | 8.769672*** |
| | (0.9788027) | (1.475001) |
| Observations | 123 | 58 |
| $R^2$ | 0.3142303 | 0.4424851 |
| Adjusted $R^2$ | 0.2787595 | 0.3768951 |

*Note:* *p<0.1; **p<0.05; ***p<0.01

The models represent multivariate OLS regression models; Coefficients are in cells, standard errors are presented in parenthesis below. (1) Represents Florida and (2) Represents Texas

## Florida

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to decrease by 0.17, meaning that one is more likely to agree with the conspiracy theory as one identifies closer to strong Republican. For every one increase in a person's age, we can expect the belief in conspiracy to decrease by 0.21. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #2 in Florida to increase.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.10, meaning the more educated one is, the less likely they are to agree with the conspiracy theory in Florida.

On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.21, meaning one is more likely to agree with the conspiracy theory in Florida. The less religious one is, the less likely one's belief in Conspiracy Theory #2 is in Florida. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #2 in Florida. On a scale of extremely liberal to extremely conservative, one's belief in

conspiracy rating is expected to decrease by -0.39, which moves their tendency to believe in a conspiracy theory closer to strongly agree. This means that as one identifies closer to extremely conservative, the more likely one is to agree with Conspiracy Theory #2. In contrast, the more likely one is to be extremely liberal, the less likely they are to agree.

Religiosity and ideology are the only statistically significant results in the Florida model. In comparison to the general Conspiracy Theory #2 analysis, party identification, gender identity, age, and education are not statistically significant in the Florida-specific model for Conspiracy Theory #2.

**Texas**

On a party identification scale of 1 to 7, where 1 = strong Democrat and 7 = strong Republican, we can expect the belief in conspiracy to decrease by 0.22, meaning that one is more likely to agree with the conspiracy theory as one identifies closer to strong Republican. For every one increase in a person's age, we can expect the belief in conspiracy to increase by 0.0023. This means that as an individual becomes older, we can expect the belief in Conspiracy Theory #2 in Texas to increase.

On a scale of did not finish high school to professional or doctor degree, we can expect the belief in conspiracy to decrease by 0.17, meaning the more educated one is, the less likely they are to agree with the conspiracy theory in Texas.

On a scale of not at all religious to very religious, the more religious one is, their belief in conspiracy decreases by 0.29, meaning one is more likely to agree with the conspiracy theory in Texas. The less religious one is, the less likely one's belief in Conspiracy Theory #2 is in Texas. In contrast, the more religious one is, the more likely one is to believe in Conspiracy Theory #2 in Texas. On a scale of extremely liberal to extremely conservative, one's belief in conspiracy

rating is expected to decrease by 0.43, which moves their tendency to believe in a conspiracy theory closer to strongly agree. This means that as one identifies closer to extremely conservative, the more likely one is to agree with Conspiracy Theory #2. In contrast, the more likely one is to be extremely liberal, the less likely they are to agree.

Religiosity and ideology are the only statistically significant results in the Texas model. In comparison to the general Conspiracy Theory #2 analysis, party identification, gender identity, age, and education are not statistically significant in the Florida-specific model for Conspiracy Theory #2.

From my analysis, one can see that in California and New York, which were states with the strictest COVID-19 regulations, people were less likely to have a higher belief in the two COVID-19 conspiracy theories I discussed. Furthermore, people that lean more liberal were even less likely to have a higher belief in conspiracy. Thus, the belief in conspiracy could be attributed to party identification and what majority party rules in each state. For two of the least restrictive states, Florida and Texas, the analysis appears to show that the belief in conspiracy could still be largely decided based on one's party identification, despite the level of restrictiveness in the state.

## CONCLUSION

In conclusion, my analysis and results support my main hypotheses. I predicted that variations we see in COVID-19 conspiracy beliefs and health behaviors are due to the impact of COVID-19 restrictions. In other words, COVID-19 restrictions have an impact on one's belief in COVID-19 conspiracy theories. My other hypothesis was more liberal people have a lower belief in conspiracy, while more conservative people tend to have a higher belief in conspiracy. Support for this hypothesis was discussed in my analysis as well.

Altogether, my results can help political scientists understand what factors make particular COVID-19 narratives popular, how conspiracy beliefs impact political factors, such as political stability, and how they might be able to counterclaim the COVID-19 conspiratorial narratives with empirical evidence. My research also provides a more in-depth analysis at how particular party identifications respond to specific COVID-19 conspiracy theories. The results can aid policy makers and politicians in creating new laws or regulations to further mitigate the coronavirus. Furthermore, the results will add to existing literature's understanding of what we already know about conspiratorial thinking. Strictness of COVID-19 lockdowns could be a deciding factor when individuals choose whether or not to believe in COVID-19 related conspiracies, along with their ideology and party identification as existing literature demonstrates (Conway et al. 2021). In the future, it would be interesting to perform a similar analysis on states that are more neutral in terms of COVID-19 restrictions. Neutral states could then be compared to the most restrictive and least restrictive states.

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