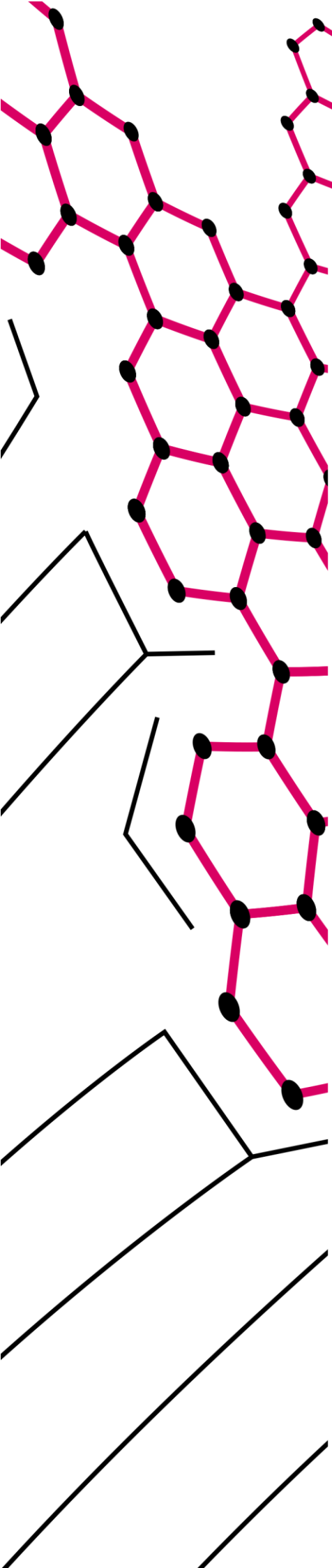




MASTER THESIS

God Save America

How Religiousness, Trust, and Conservatism affect Covid-19 Policy Compliance in U.S. Countries and States

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Abstract

The Coronavirus has hit the world in early 2020. And while some states battle the spread of the virus successfully, others, such as the US, are underperforming in their fight with countless infections and deaths. Recent studies have hinted at the influence of religiousness on non-compliance regarding Corona policies. The current study aims at exploring the relation between religiousness in US states and counties and policy compliance. Based on this aim the following research question is answered: *In how far can conservative values and trust in the government explain the negative relationship between religiousness and Covid-19 policy compliance in American states and counties?*

The study collects data from different sources, combines them into two coherent datasets, and analyzes them with multiple regression analysis. The findings imply that especially Evangelicalism correlates with higher mobility, lower mask-wearing numbers, and fewer people staying at home. Other ideological characteristics, such as conservatism and trust in state institutions, play a role as well. The study concludes that it is not religiousness in general that is having an impact but rather a combination of behaving and believing that is especially predominant in the evangelical groups. In addition to that, the study closes its findings with the importance of trust and conservatism as important factors for compliance and one of the basic building blocks for the policy recommendation. Based on these findings the study recommends policymakers reach out to the leaders of non-compliant groups, such as religious leaders or political leaders that are trusted by the community and encourage compliance through them as their example is more likely to be followed.

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1. Introduction

The Coronavirus pandemic had its first birthday in 2021 and during this year it has changed the world and challenged nations that have not seen such a global health crisis in a long time. Originally from China Wuhan, the virus has spread across the globe, consumed most countries, and forced them to act. This action has been implemented in the form of policies restricting peoples' mobility and instructing them to wear masks to slow the spread of the airborne virus. In November 2020, the first vaccines were announced and by 2021, are administered to many people. However, the end of 2020 has also brought new mutations of the virus which makes it spread even faster than before. This development is forcing countries to use even stronger restrictions such as lockdowns and the use of FFP-2 masks. (Carvalho, Krammer, & Iwasaki, 2021)

However, for policy effectiveness, there needs to be policy compliance. Only high policy compliance can ensure the effectiveness of the measures taken and reduce the spread of the virus which is meant to keep the numbers in the intensive care units low so that hospitals have enough capacity to treat all patients. While it is too early to claim that some countries have successfully fought and won against the virus, they can still be categorized as more successful countries and less successful countries. A recent study by Baniamin, Rahman and Hasan, has divided countries into successful, better performing, and underperforming countries, based on whether they were able to flatten the curve. Countries such as China and South Korea were amongst the successful performing countries while the UK, Italy, and the USA fall into the underperforming category. (Baniamin, Rahman, & Hasan, 2020) Especially the USA seems to be struggling with the containment of the spread. Twenty-three percent of the world's Corona cases can be traced back to the US. (Cunningham, 2021) The bad response and the resulting high cases and deaths are not because of the health system, as one might think. Before the Coronavirus had taken over the world, the U.S was rated amongst the best-suited countries to deal with a pandemic based on their healthcare system. (Cunningham, 2021) It was rather the failure of policy and leadership which has made the Corona crisis even direr for the U.S and its inhabitants (Altman, 2020). Recent research has identified multiple aspects that lead to the failure of policies meant to curb the infection rates. One aspect that is affecting the U.S. as well is the role of religiousness. Studies argue that religiousness in the U.S. is having an impact on compliance with Covid-19 regulation, mainly, with the mobility of religious groups (DeFranza, Lindow, Harrison, Mishra, & Mishra, 2020).

Religiousness is thereby associated with higher mobility, a slower mobility decline and the perceived exceptionalism of the U.S, and the protection of God from the virus (DeFranza et al., 2020; Hill, Gonzalez, & Burdette, 2020; McLaren, 2020). Mobility is in this case a manifold concept that will be further

distinguished in this research. As mobility can be defined as mobility in the workplace, mobility in residential areas, or the daily movement with public transportation.

Since the U.S. is less secularized than other western countries, thus the study will be investigating the U.S. case and whether religiousness, specifically, the three groups' Evangelists, Catholics, and mainline Protestants have an impact on Covid-19 policy compliance (De Graaf & Wiertz, 2019, p. 268).

Due to the novelty of the topic, as Covid is a relatively new phenomenon, research is still scarce in the field. There is little research on different forms of compliance such as mask-wearing. Moreover, research is scarce on lower levels of aggregation, meaning that studies that specifically investigate the relations on the county level are scarce. This research will thus, examine the relationships both on the state and county levels. The study aims at adding to the existing body of knowledge. Specifically, in the field of compliance concerning religious groups. It is meant to further assist policymakers when constructing policies that also affect religious groups and how to design policies best so that higher compliance can be expected for religious groups.

Based on the former argumentation, the following research question has been developed: *In how far can conservative values and trust in the government explain the negative relationship between religiousness and Covid-19 policy compliance in American states and counties?*

2. Theory

2.1 Compliance and Religion

Policy compliance and religion have been especially studied in the area of tax compliance and crime research. In tax compliance studies, religiousness is found to have a positive impact on compliance. And in crime research, religiousness is also associated with lower levels of crime (BAIER & WRIGHT, 2001; Grasmick, Bursik, & Cochran, 1991; Van Cappellen, Corneille, Cols, & Saroglou, 2011). When making the distinction between Protestants and Catholics, one can go back to Weber, where it is stated that especially protestant values focus on hard work self-discipline, and the need to "obey" God to earn His blessings. Which in turn influences their compliance behavior as non-compliance is against these values and would not bring blessing (Feather, 1984).

Studies especially focus on the social implications that religiousness and religious communities have on compliance behavior. Studies that focus on the social network approach usually argue that religious groups enforce compliance as they are based within the doctrine of reward and punishment (by the leaders of the group or God). The institution of religion which is then normally found within the religious community and the families instill values and normative beliefs which then influence the individual's compliance behavior (BAIER & WRIGHT, 2001; Grasmick et al., 1991; Van Cappellen et al., 2011). The punishment that entails when non-compliance behavior is executed, derives both from the individual and the social group in form of "shame" and "embarrassment". Shame is hereby the self-imposed punishment of the individual which stems from the violation of their beliefs and values while embarrassment derives from the community that calls out the member on their misbehavior. Thus, when looking at the perspective of the individual, the utility of non-compliance is rather low as shame and embarrassment from the community mean that there is a threat to the social standing of the individual. Thus, it is argued that the social control of religious groups, leads to lower non-compliance within these groups (BAIER & WRIGHT, 2001; Grasmick et al., 1991). Thus, due to higher within-group compliance and the strong hierarchies within religious groups which increases the fear of punishment, are religious groups thought to be more compliant with the law (Johnson & Bering, 2006; Van Cappellen et al., 2011). This has also been theorized with the hellfire hypothesis by Hirschi and Stark, which states that religion deters criminal behavior as there is a fear of sanctions within these groups and this exerts social control (BAIER & WRIGHT, 2001; COCHRAN & AKERS, 1989; Sadique, 2014). Therefore, it can be concluded that many studies argue that religiousness and religious groups positively affect compliance in the tax and crime field. Crime compliance applies to policy compliance in this case, as non-compliance with Covid-policies are punished by law and can be defined as crime. Henceforth, in theory, compliance by religious groups in the field of crime should apply to this study. This is indeed going against the expectations of the study.

Because what is striking, is that when looking into the field of compliance of religious groups and Covid-19 policies, studies find exact opposite behavioral patterns. (Hill et al., 2020; Perry, Whitehead, & Grubbs, 2020).

There is very limited research that argues that more religious groups are less compliant. But there is research on religious groups having different policy preferences and less confidence in science. When scholars argue for non-compliance, they usually explain it with the unyielding belief in God which cements the belief that God will protect them from any harm. This, therefore, causes less compliance as people assume that the policies are unnecessary as they "have god". (DeFranza et al., 2020; Wu & Cutright, 2018)

This raises the question of why religious groups seem to be opposed to Covid-19 regulations when previous research predominantly suggests that religious will comply with policies mainly due to values and beliefs that are reinforced within their religious groups. Additionally, research suggests that Protestants are even more focused on complying with policies. The predominant religious group in the United States is Protestants. So why does it seem that also this group is not complying with Covid-19 regulation?

2.2 Religion in the United States

The US is an exceptional case when it comes to religion in the Western World. To understand why the US has gained this status, we need to get back to the origins of the state. After the Revolutionary War that ended in 1783, the founding fathers drafted the American Constitution. This Constitution emphasized the division between the state and the church. The notion of freedom from a state that is deeply entwined with religion was largely carried by the settlers that brought with them the experience that they had from other European states, where religion was part of the government and took part in oppressing minorities. Equality under the law was thus seen as more important than a state dictated by religion (Hemeyer, 2015, p. 20). This aspect of the Constitution is still shaping the religious system and religiosity in the US as the absence of a church-bound state makes the religious sphere thrive (Putnam, Campbell, & Garrett, 2012, p. 4).

Especially after the Second World War, religion started to gain importance in the US. And after the 1960s the US experienced an aftershock to the times that were defined by "Sex, Drugs and Rock 'n Roll". People were developing into the other, more religious direction, and especially Evangelicals started to gain influence (Putnam et al., 2012; Silk & Walsh, 2018).

Today, when looking at US society, religion and religious belief are still very dominant. More than 90 per cent of Americans believe that there is a God or a spirit and to over half of all Americans, religion is very important. A third of all Americans believe that the Bible is the actual word of God and praying before

meals is standard for about 44 per cent of Americans (Hemeyer, 2015). One could go on all day with these statistics, but they become even more interesting when put into comparison with other western nations. Comparatively, only nine per cent of British citizens believe that the Bible is the exact word of God and only 17 per cent of the Swiss and 12 per cent of the Dutch say that religion is very important (Putnam et al., 2012).

But how can this trend of less religious beliefs and importance be explained in the European context?

The most important theory explaining the decline of religion in western Europe is the secularization theory. The secularization theory states that religion is declining due to modernization processes (Woodhead, Partridge, & Kawanami, 2016). Religion thereby loses its social significance; personal salience and it becomes increasingly privatized during that process (De Graaf & Wiertz, 2019).

Moreover, it is argued that people are not as dependent on the church anymore as they have increased earnings and thus more social security (Bruce, 2002). This takes place within the individualization process of people which adds to the independence from institutions such as the church (Parsons, 1974). In the process of secularization, which does not happen on a short-term basis but is a process that takes generations to unfold, religious institutions lose their functions and resources which causes them to be less influential in society (De Graaf & Wiertz, 2019; Gorski, 2012).

But the secularization theory does not seem to apply to the US, where the majority of citizens still has a strong sense of believing, belonging and behaving (Putnam et al., 2012). Even though, there has been some critique on the exceptionalism of the US in the secularization theory, stating that religiosity overall has been declining in the US (Chaves, 1989; Voas & Chaves, 2016). The common argument against this is the fact that even though the rates are declining in the US, they are declining significantly slower and started later than in other countries (De Graaf & Wiertz, 2019). Additionally, an argument for the US as an exceptional case is the fact that the US does not have as much social security as other states do. Thus, more Americans rely on the church to provide security. Moreover, Americans still see their nation on a divine mission and religiosity is still playing a significant role in everyday politics. It is not possible for president candidate to not show religiousness in their campaign. (Torpey, 2010; Wald & Calhoun-Brown, 2014). Thus, the US seems still very engaged in religion both in the political and the public sphere. It can thus be said that the US is indeed an exceptional case when compared to European countries.

A well-known theory as to why the US is not as secularized as other states is the supply-side theory. This theory states that religious activity is generated through religious supply. This also includes the pluralism and religious activism affected by the supply. Thus, religious demand is constant and only the supply-side fluctuate (Froese, 2001; D. Olson, 2011). Putting this theoretical concept into practice, it can

be concluded that the US has more competition amongst the different church congregations. This causes them to increase their presence and market themselves to possible members which in turn, causes higher numbers of church members. When looking at Europe however, many churches have a monopoly. This keeps competition low and; therefore, churches do not increase their presence and do not market themselves as intensely as US churches do (De Graaf & Wiertz, 2019). US churches marketing themselves to possible "customers" is thereby, an adequate representation of the American society (Torpey, 2010).

To conclude, even though scholars are arguing in favor of the secularization theory in America, I showed that American society is an exceptional case because religious adherence and the importance of religion in US American society is still considered influential and should not be disregarded. Additionally, the supply-side theory underlines the exceptionalism of the American case. Thus, using the American case for this research is a plausible choice.

2.3 Religion

Religion is amongst the oldest societal institutions known to humankind. Nevertheless, defining this institution is a task that scholars still face today when trying to untangle the manifold definitions and underlying cultural contexts. Early papers have defined religion in three ways: religion as an area of human activity that was not clearly defined and could be broadly interpreted. Secondly, religion is a class of metaphorical statements and actions that denoted social relationships and social status. Thirdly, religion is the belief in a specific class of objects for example the belief in spirits or the supernatural (Horton, 1960, p. 201). However, these definitions have been debated, redesigned, and abolished over the years. In the late 20th century, the definition of religion saw the inclusion of anthropocentrism, meaning the projection of human attributes forming religion. While later scholars have defined religion as an attachment and close relationship to things. Or they defined religion as a ritual behavior that thereby forms collective action and social cohesion. That's why today's scholars argue that religion is a socially dependent fact and cannot simply be labelled with a unified definition. The term system thus is the label that can be given to the term religion. The system then merits its label (Nemec, 2020, p. 685). However, the new definition of religion does not mean that the debate has suddenly come to a halt. The definition of religion is still widely debated, and articles take different approaches towards the phenomenon (Casanova, 2019; Neo, 2018; Paul Victor & Treschuk, 2020). Religion is not only being defined for general use but there are also context-related debates such as in the definition of religion in law texts (Depaigne, 2017; Sandberg, 2018). Thus, the debate is still ongoing and even more complex than it used to be.

Nevertheless, the fact that religion is embedded in the societal context can be agreed on by many scholars (Bond, Lun, & Wai Li, 2012; Hunsberger & Jackson, 2005; McGuire, 2008; Robertson, 1987).

Wuthnow presents three theories that explain religion in the embedded social context: First, the modernization theory which states that societies can be distinguished based on their level of traditionality. That means, if individuals in society want to be more modern, they must secularize as religion is considered more traditional. This leads to less religion or religion that makes a compromise with science. This phenomenon can be seen in the development of creationist scientists. The second approach is the world system theory which states that all societies relate to one another, and that religion and religious institutions can be influenced by changes in another nation. The last theoretical approach is the critical theory which states that the move away from the three-pillared society (traditional religion, scientific and technical reasoning, state intervention to strengthen capitalism) leads to a protest from the religious groups against bureaucratization and monetarization. One movement that can be characterized as a "protest" is the religious fundamentalist movement (Wuthnow, 1991).

For the sake of clarity, this paper will use the definition of religion as behaving, belonging, and believing (Putnam et al., 2012). Believing refers to the set of beliefs that members of a religious congregation have about the world that they are living in and the entity that connects the human world to the godly world. Behaving includes the aspect of morality which defines what is right or wrong and sets values, that if not followed can damage a member's reputation. Belonging can be defined as the aspect of social identity. Or to put it in more general terms, belonging to the religious group that the person identifies with and adapting to the before discussed morals, behaviors, and beliefs (Lewis & De Bernardo, 2010; Saroglou, 2011). This definition is chosen as it firstly, gives a clear frame of what is meant when the author mentions the term. Moreover, it emphasizes the social cohesion and the behavior of groups and thus, can be applied to the aggregated county and state level.

As for the sake of social context, this paper will work within the spheres of critical theory as the state intervention in form of policies and the assumed non-compliance is a form of "protest" which is in line with the critical theory.

The distinction between behaving and belonging can also be transformed into a hypothesis. Belonging is thereby the number of members in religious groups and the aspect of behaving can be found in the rates of church attendance. Thus, the hypotheses are as follows:

H1 a/b: The larger the share of mainline Protestant groups in a state (a)/county (b), the higher the compliance with Covid-19 policies.

H2a/b: The larger the share of religious groups in a state(a)/county (b), the lower the compliance with Covid-19 policies.

H3: The larger the share of people attending religious services once a week or more in a state, the lower the compliance with Covid-19 policies.

2.3.1 The Concept Religiousness

Many studies and scholars have analyzed the phenomenon of "religion". As identification with religion is highly subjective, many studies have focused on measuring religion on the individual level (King, 1967; Vernon, 1962). However, religion is not restricted in its effects to the individual level. The Moral Community theory by Durkheim suggests that the attitudes and behaviors of individuals are affected by the aggregate level of religion. This means that the aggregate group affects individual behavior and influences their beliefs and practices (Welch, Tittle, & Petee, 1991). More recent research into the theory has found that the effect of the aggregate level of religiosity also affects individuals that are not part of the religious group and thus influences their behavior as well (Stack & Kposowa, 2011). Not only have religious parties been part of the legislative but also nationalist movements are oftentimes based on the ideas of religion (Fox & Sandler, 2005). Therefore, it comes as no surprise, that religiousness in form of aggregated religion also influences the government (Bolzendahl, Schnabel, & Sagi, 2019; Fox & Sandler, 2005). Therefore, religiousness is not only an individual-level phenomenon, it is to be expected that religiousness also has a rather strong influence on the aggregate level. Some argue that religion is incompatible with the democratic Party System (Bolzendahl et al., 2019). However, religion has already merged with the democratic system. This study expected that aggregate individual behaviors will translate into state-level expectations. As religiousness on the aggregate level affects the behavior of the community and citizens outside of the community. That means that the effects of religiousness will be interesting to analyze in the sphere of policy compliance. The study will take the individual-level mechanisms as given and is aware of them. As most studies that analyze religiousness on the aggregate level use religious affiliation, this measurement will also be used in the study (L. R. Olson, Cadge, & Harrison, 2006).

2.3.2 Religious Fundamentalism

For the sake of completeness, one should not miss out on mentioning religious fundamentalism as well. The term religious fundamentalism did not, as one might expect, originate within the context of terrorism, it rather arose during the protestant revival movement in the early 20th century. The term was meant to represent the return to the "fundaments" of Christianity and the strict interpretation of the bible. (Koopmans, 2015)

Today, religious fundamentalism is still a highly debated concept that is influenced by the definitions of many disciplines (Wibisono, Louis, & Jetten, 2019). What most scholars can agree on is the fact that religious fundamentalism can be associated with a set of dogmatic beliefs and the literal interpretation of the bible. This interpretation is the put over the worldly experience. (Altemeyer & Hunsberger, 2004; Bronstein, Pennycook, Bear, Rand, & Cannon, 2019; Wibisono et al., 2019)

The previously mentioned distinction of believing, behaving, and belonging can also be applied to the aspect of Christian fundamentalism. For the aspect of beliefs, Christian fundamentalists are more likely to have more traditional views on politics and morals and are also associated with right-wing authoritarianism (Altemeyer & Hunsberger, 2004; Bolce & De Maio, 1999). Moreover, in fundamentalist groups, the belief prevails that there is one unfailing scripture of the almighty that should not be questioned. And all evil, opposing scripture has to be fought to have a special place with the almighty (Hunsberger, 1996). The divine authority is standing over all other authority and thus, also over worldly authority. In terms of behavior,

fundamentalists are found to be associated with a high frequency of church attendance (Altemeyer & Hunsberger, 2004). Belonging as shown before, means belonging to a religious group as a social group. Defining fundamentalism is difficult to do and it is even more tedious to assign one group to the fundamentalists. In the American example fundamentalists, are part of the Evangelicals (Kellstedt & Smidt, 1991). But as it has been stated by Kolstad and Smidt (1991): "All fundamentalists are Evangelicals but not all Evangelicals are fundamentalists." (p. 260) Applying this knowledge to the research at hand implies that even though not all Evangelicals are fundamentalists, the fundamentalist group of Evangelicals will be influencing the policy compliance with Covid-19 policies. Additionally, it is to be expected that the Evangelical group will portray higher church attendance rates.

Based on this, a hypothesis can be developed:

H4a/b: The larger the share of Evangelical groups in a state (a)/county (b), the lower the compliance with Covid-19 policies.

When analyzing religious fundamentalism, researchers usually do so on the individual level as religious fundamentalism is highly contextual. To do so, the fundamentalist scale is widely used (Emerson & Hartman, 2006; Wibisono et al., 2019). This scale uses aspects of the individual behavior and belief such as the belief in creation science, doubts about religion, or the belief in the traditional god where god gives unfailing guidance and advice (Altemeyer & Hunsberger, 2004).

However, research on the aggregate level is rather scarce due to the complexity of the concept, the highly contextual definition of it, and the data shortage (Altemeyer & Hunsberger, 2004; Bronstein et al., 2019; Emerson & Hartman, 2006).

2.4 Policy Compliance

Compliance is crucial for a successful policy. Early policy compliance theories have suggested that especially policies with a high consensus within the population are more likely to be successful (Meier & Morgan, 1982, p. 25). Especially, for corona policies, compliance is needed to decrease the rate of infection. Studies on compliance have made two general distinctions between the mechanisms behind

policy compliance. The older definition is compliance due to enforcement. In this distinction, compliance happens because the actors are rational economic actors. Meaning, that the benefits of complying with the policy outweigh the risks or costs. Punishing non-compliance happens thus, based on penalties, and is still popular among agencies. However, results are mixed when it comes to the effectiveness of penalties for non-compliance (Williams, 2020, pp. 2-3). There has even been evidence, indicating the contrary (Murphy & Harris, 2020).

The newer theory is based on voluntary policy compliance and is called the social actor theory. The theory states that compliance is influenced by the trust or lack thereof, in the government and each other. Meaning that vertical, as well as horizontal trust, play a role in whether compliance within society is high. Vertical trust describes the trust in the government while horizontal trust describes the trust that others in the same community will follow the policies as well which, therefore, urges an individual to do the same (Williams, 2020, p. 2). Even though the focus in policy compliance is on the individual actor, the importance of horizontal trust in the compliance process, showcases that the community that an individual is embedded in also plays a role. Thus, doing the study on an aggregated level is an effective approach. As it is stated in Marien and Hooghe, citizens will comply if they believe the government and as they are part of a *community* and want to act properly within that community (Marien & Hooghe, 2011, p. 271). Im et al. have defined the two theories as such: citizens are either self-interested, meaning that they maximize their gains by following the policy or they are in the role of the citizen who is duty-bound to society, their community, and trusts in governmental decisions (Im, Cho, Porumbescu, & Park, 2014).

Contrary to the social actor theory, which states that a lack of trust leads to lower compliance rates, there has been research stating that lower trust levels might be beneficial for democracy as it enhances the discussion culture and citizens can give valuable feedback (Marien & Hooghe, 2011). Moreover, citizens are supposed to have lower levels of trust as they also fulfil the role of "watchdogs, veto-wielders, and judges" which means that they are given a role that inherits power (Rosanvallon & Goldhammer, 2008). Thus, if people have full trust in the government, they will not watch or judge or even give their veto as they willingly trust the government, thereby taking away their power.

However, recent research has shown that distrust is indeed detrimental to policy compliance. Where low trust in political actors will make the implementation harder and the acceptance lower especially if the people do not see the fairness of the intervention and if it does not benefit them (Marien & Hooghe, 2011). Other research has shown similar findings for the trust in government (Güzel, Özer & Özcan, 2019) and more recent research has shown that especially during a crisis there also needs to trust in professionals for a policy to be successful. Only if people are educated and trust the education that they receive, are they willing to follow the policy and believe it to be fair and beneficial to them (Saechang,

Orachorn, Jianxing Yu & Yong Li, 2021, p.10). Trust, therefore, needs to be held up by the government, and policies need to be assessed based on their fairness (GRIMES, 2006; Murphy, 2019). The research at hand will be on an aggregate level. Therefore, when analyzing the data the differences between country-level, state-level, and county-level policies have to be kept in mind. It is especially important to the policy that is being implemented (Cornelson & Miloucheva, 2020).

2.5 Policy Compliance and Covid-19

As it was explained in the previous section, religious groups are less likely to have trust in science. Even though the declining belief in science is worrisome, people that are currently not following Covid-19 guidelines might likely be the real threat to the current crisis as they are probably more likely to spread the disease and thereby overwhelm the local health providers.

Who are these people and which factors may increase the likelihood of following Covid-19 guidelines? Clark et al. (2020), as well as Nofal et al. (2020), have conducted an analysis based on this very question. Clark et al. did a study across seven (mostly) western countries trying to find predictors for voluntary compliance behaviors (Clark, Davila, Regis, & Kraus, 2020). While Nofal et al. aim at analyzing the adaptation to Covid-19 mitigation guidelines among 8548 Japanese citizens (Nofal, Cacciotti, & Lee, 2020).

They find three leading predictors that influence an individual's behavior towards protection from Covid. Personal well-being is of major concern when taking precautions against Covid 19. In addition to that, women are generally more likely to follow the rules that are being set by the government (Clark et al., 2020, pp. 77-79). Moreover, more conscientious groups are also more likely to follow guidelines. Henceforth, it is important to identify groups that are not as conscientious and to educate them on the topic (Nofal et al., 2020, p. 9). Note here, that this finding has been drawn from the Japanese study, it is, therefore, possible, that this finding can differ within the American society.

The most important finding for this study is that guidelines are more likely to be followed when the belief prevails, that the precautions taken are effective against an infection (Clark et al., 2020, p. 79). This can be achieved, when there is high trust in the health care system and/or the government. In addition to my theoretical arguments, recent research has shown that people are more likely to follow mobility guidelines when there is high confidence in the local health system. However, when there is little trust in the health care system but high trust in the government, people also follow the guidelines. (Chan et al., 2020).

This shows that either trust in the government or the health care system is needed to make people believe in the effectiveness of the measures and increase the overall likelihood, that people will follow the implemented guidelines.

Linking this to the evidence that more religious groups have less trust in science allows for the interpretation that if there is low trust in science, low trust in the government, or low trust in the health care system, there will be low trust in the belief that scientifically based Covid-19 measures work resulting in low compliance within the religious group.

This allows for a hypothesis to be developed:

H5: States where the share of trust in the state government is low, religious groups portray low Covid-19 policy compliance.

2.6 Compliance and political partisanship

Next, to trust in government and health care systems, the political orientation also influences policy compliance. When looking at research conducted on American policy compliance a common distinction is made between Republican and democratic groups and whether the orientation towards one of them is affecting policy compliance based on Covid-19 measures.

As shown in the previous section, the individual conviction that measures are effective is important for policy compliance as well as the belief that following the guidelines will benefit oneself. However, when personal risks are underestimated by a group of people, the likelihood for these groups to follow guidelines is low. What studies have found is that Republicans are more likely to be less concerned with individual health risks as well as community health risks and there is a higher likelihood of them taking risks in getting infected with Covid-19 compared to Democrats. Conservative values add to that phenomenon (Hsiehchen, Espinoza, & Slovic, 2020).

Other studies find similar effects in which Republicans are less likely to follow stay-at-home orders after they have been implemented by the government (Painter & Qiu, 2020). If these individuals are also more supportive of Trump, they are even more likely to not follow the guidelines and underestimate their risk of catching the virus. This is also due to Trump supporters being more likely to inform themselves less about the virus and are engaging more in social activities that are not following distance regulations (Barrios & Hochberg, 2020). A similar finding was made by Holm et al. where they state that Republicans in general, are less likely to inform themselves about the virus, and in general are more mobile than Democrats during state-order sheltering (van Holm, Monaghan, Shahar, Messina, & Surprenant, 2020).

This effect is enhanced when the governor of the state is of the opposing party. Therefore, when regulations are imposed by an outsider, rules, and regulations are not followed as effectively when the regulation is implemented by someone from the preferred party (group insider). (Cornelson & Miloucheva, 2020) What has been shown in different research, is that state orders have little effect on the actual behavior of people. What is more effective in regulating behavior are group-internal norms

that influence an individual's behavior (van Holm et al., 2020, p. 15). This finding is particularly important for this research, as it shows how influential groups can be in influencing an individual's behavior. This does not only account for Republicans or Democrats but also religious groups.

Based on the findings, another hypothesis can be developed:

H6a/b: States (a)/counties (b) with a higher number of conservative citizens are less likely to comply with Covid-19 policies.

Based on the findings in the literature section, a mediation hypothesis can be added as well

H7 a/b: the effect of religiousness on Covid-19 policy compliance is mediated by (a) trust in the government and (b) conservative values on the state and the county level.

These hypotheses are therefore focused on policies implemented by federal states rather than the national government.

Theoretical Model

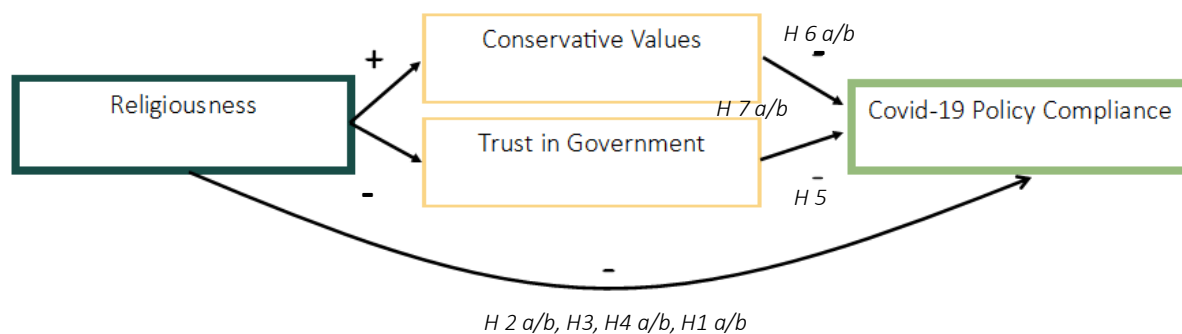


Figure 1 Theoretical Assumptions

What can be seen in figure1 is the theoretical model of the research. As has been explained in the theoretical section of the paper, it is expected that religiousness negatively influences Covid-19 policy compliance, and the moral community theory suggests that these effects are enhanced in religious groups due to their homogeneity them. The expected low policy compliance thereby is assumed to increase the Covid-19 infection rates. Low trust in government, as well as conservative values, are expected to also decrease covid-19 policy compliance as it is assumed that low trust and conservative values lower the belief in the policies implemented by the government.

3. Methods

The study is concerned with the relationship between religiousness and Covid-19 policy compliance. To be able to form a coherent dataset, secondary data was collected. In this case, secondary data was beneficial as it allowed for larger sample sizes that would not have been possible with surveys. Thus, it allows for more reliable conclusions to be made (Heaton, 2003). Secondly, due to the popularity of Covid-19 in current research, quantitative datasets from reliable sources were widely available (Heaton, 2003).

Moreover, secondary data was the most suitable approach as it allowed for a high N, is easily replicable, and is a standard in similar studies (DeFranza et al., 2020; Hill et al., 2020; Perry et al., 2020).

There were several criteria applied when selecting the data. The data on policy compliance had to have sufficient numbers both on the state and county level to be able to draw sufficient conclusions and needed to have data available from the beginning of December 2020. Secondly, the data had to come from a reliable source. A reliable source means that the source is publicly available, that there have been previous datasets made available, and it was also used in another research. As even though, there is a lot of data available on the topic, not every dataset has been collected to scientific standards. To ensure the replicability of the study, data had to be publicly available without a payment border. Lastly, the data had to be suitable to answer the research question and test the hypotheses (Flick, 2009, p. 197).

The different relationships are analyzed with simple regression analysis. Additionally, a mediation analysis will be performed for the variables trust in the state government and conservatism, based on Baron and Kenny (Baron & Kenny, 1986).

3.1 Datasets

The data was collected from different sources as no dataset includes all the relevant concepts for this research. Firstly, the data archive of the US Census Bureau was searched as this source is reliable and has data on many of the concepts in this study. This source is very reliable as there is a high representation of citizens both on the state and county level, in addition to that the US Census is used frequently in other studies. Two Covid projects were used for the data. Namely, the COVID-State Project¹ and the GEPHI Facebook Symptom Survey². As the data was derived for the county and the state level, two datasets were created in total. One dataset exclusively for the state-level data and one dataset exclusively for the county-level data.

¹ <https://covidstates.org/>

² https://dataforgood.facebook.com/covid-survey/?date=2021-03-02&dates=2021-01-02_2021-02-27®ion=WORLD

3.1.1 Data Collection

The data for *religious adherence*, both at the state and county level, were collected from the US Religious Census 2010. The Census data collects data every 10 years on multiple subjects and in all of the US. The US religious Census from 2010 was comprised of 48.8 per cent of the total US population, including 217 Christian denominations and a total of 236 religious' groups. Due to the high N in this study, the data is very reliable and future research can easily replicate this study with newer data. (PrincetonUniversityLibrary, 2010) In terms of operationalization, As touched upon earlier, religiousness can be explained by the concepts of behaving, belonging, and believing (Putnam et al., 2012). As believing is an extremely individual aspect, this will not be considered in this study. However, **religiousness** will be measured by the number of *religious adherence* (belonging) per state and the *frequency of prayer* (behaving). Data for *the frequency of prayer* and *party affiliation* on the state level was retrieved from the Pew Research Center Religious Landscape Study from 2014. It surveys more than 35000 Americans, and the data has small margins of error which allows us to see small changes within religious groups. The Pew Research Center is non-partisan. This is a good attribute as it gives more reliability to the data as the data is less likely to be influenced by the research centers' hidden intentions. (PewResearchCenter, 2014) For the county level, **religiousness** was only measured based on *religious adherence* (belonging) as data on the frequency of prayer was not available.

Conservatism in a state and county was measured by the number of people belonging to a political party. As the *Republicans* are more entwined with religion and conservative values, a higher number of Republican voters was considered as more conservative (McCann, 2009). Additionally, **conservatism** was measured with *the trust in Trump, Biden*, and the *state government* to handle the Corona crisis. *Higher trust in Trump* to handle the Corona crisis, as the candidate of the Republican party, was associated with higher degrees of conservatism. The measurement of *Trust in Trump* is not included in the county-level analysis as the data was not available. Data on party affiliation for measuring conservatism on the county level comes from the 2016 presidential election returns collected from the Harvard MIT election data and science lab (Pettigrew, 2016).

Policy compliance is measured *with mobility, mask-wearing, and people staying at home*. The data on **policy compliance** on the state level consists of a dataset *on mobility* which was collected by the Google Mobility Report. The data that is used for this paper has been collected at the beginning of December 2020. The data represents a percentage change in mobility based on a reference date that is the median of five weeks from the third of January to the sixth of February. The data that is used in the report depends on the users that have their privacy settings enabled. This data is only used at the state level (Google, 2021). Furthermore, the second measurement *of mobility is the population staying at home*. This dataset was retrieved from the U.S. Bureau of Transportation Statistics and applies both to the state

and the county level to ensure comparability. The population *staying at home* is also used on the county level. The data stems from December 2020. (U.S. Department of Transportation Statistics, 2020). The data for *mask-wearing* on the state level as a second form of Covid-19 policy compliance was collected from the DELPHI Covid Symptom Survey. This Survey is designed by the DELPHI Group at Carnegie Mellon University. The data is collected via a Facebook survey that participants are invited to via their Facebook News Feed. The survey is designed with data users, public health officials, the University of Maryland, and others (DELPHI, 2020). The data *on mask-wearing* on the county level comes from a New York Times survey in which 250 000 survey respondents were interviewed at the beginning of July 2020. Respondents were asked how often they wear a mask in public when they expect to be within six feet of another person. Possible responses were newer, rarely, sometimes, frequently, and always. Based on these responses, estimates were calculated. The survey data was weighed by age and gender and locations of the respondents were estimated by the ZIP code. In the dataset, the variables were computed to wearing masks frequently (always, frequently) and wearing masks infrequently (sometimes, rarely, never) (NewYorkTimes, 2020).

The measurement of the **concept Covid-19 policy compliance** revolves around the behavior of citizens in a state and county and will be measured with the percentage of *mask-wearing, the population staying at home, and the average mobility change*, consisting of the mobility change in retail, parks, transit, workplaces, and residential areas. The mobility changes only apply to the state level. While mask-wearing and people staying at home apply both to the state and the county level.

Data *on trust in the government* and is taken from the 9th wave of Covid State Project Data. This project is a collaboration of five different universities in the US and aims to gather data on public policy preferences, health behavior, and trust. Data from the 9th wave was collected from July until the 26th of August. This wave was picked as it has a high N of 21.196 and has data on trust. The data is collected among the age groups from 18 to 65 and over and among all races (COVIDSTATES, 2020). This data is only applicable at the state level. Trust may be the most complex concept to operationalize here. Trust is rather based on individual values, ideas, and opinions. However, the measurement will be the amount of trust that people have (high amount or low amount) in both the political candidates' Trump and Biden and the state government to handle the Covid-19 crisis.

Data for the **urbanization** rates were gathered from the 2010 Decennial Census (UnitedStatesCensusBureau, 2010, 2018). Urbanization will be measured based on the amount of urbanization in a state. An area is urban when it has more than 2500 people living in that area.

Variable	Source	N	Min	Max	Mean
<i>Sheltering in place</i>	U.S. Bureau of Transportation Statistics (BureauofTransportationStatistics, 2020)	50	20,99	35,41	28,36
<i>Mobility</i>	Google Mobility Data (Google, 2021)	50	-42,67	4,00	-15,85
<i>Mask Wearing</i>	Covid Symptom Survey (DELPHI, 2020)	50	81,33	97,07	91,43
<i>Low Trust in Biden</i>	Covid states Repository: Covid States Project (COVIDSTATES, 2020)	50	18,20	40,25	26,35
<i>Low Trust in the State Government</i>	Covid states Repository: Covid States Project (COVIDSTATES, 2020)	50	5,60	24,60	16,26
<i>High Trust in Trump</i>	Covid states Repository: Covid States Project (COVIDSTATES, 2020)	50	15,55	29,90	21,8
<i>Urbanization</i>	2010 Decennial Census (IowaStateUniversity, 2010)	50	38,7	95,0	73,59
<i>Evangelical Rates*</i>	2010 Religious Census (PrincetonUniversityLibrary, 2010)	50	22,81	420,41	160,13
<i>Mainline Protestant Rates*</i>	2010 Religious Census (PrincetonUniversityLibrary, 2010)	50	8,52	292,66	86,12
<i>Catholic Rates*</i>	2010 Religious Census (PrincetonUniversityLibrary, 2010)	50	35,15	449,05	19,32
<i>Religious Attendance*</i>	Pew Research Centre: 2014 Religious Landscape Study (PewResearchCenter, 2014)	50	20,90	55,60	38,06
<i>Republicanism* at State Level</i>	Pew Research Centre: 2014 Religious Landscape Study (PewResearchCenter, 2014)	50	11,50	44,0	26,02

**=Independent Variable*

Table 2

Indicators on the County level

Variable	Source	N	Min	Max	Mean
<i>Sheltering in place</i>	U.S. Bureau of Transportation Statistics (BureauofTransportationStatistics, 2020)	3137	6,53	78,0	25,0
<i>Infrequent Mask Wearing</i>	New York Times Survey (NewYorkTimes, 2020)	3142	0,01	0,75	0,13
<i>Percentage of Evangelicals*</i>	2010 Religious Census (PrincetonUniversityLibrary, 2010)	3123	0	100	23,25
<i>Percentage of Mainline Protestants*</i>	2010 Religious Census (PrincetonUniversityLibrary, 2010)	3114	0,05	83,54	11,64
<i>Percentage of Catholics*</i>	2010 Religious Census (PrincetonUniversityLibrary, 2010)	2959	0	99,96	13,12
<i>Republicanism*</i>	Harvard University (Pettigrew, 2016)	3156	0,79	96,03	63,0

**=Independent Variable*

4. Findings

In this section, the findings of the paper will be presented. As data was gathered both on the state and the county level there will be direct comparisons of the findings on the different levels. Bivariate, as well as multivariate regression, was run. Controlling was done with the variable urbanization. When checking for multicollinearity, it is separated into three categories: $VIF=1$ is not correlated, $1 < VIF \leq 5$ is moderately correlated and $VIF > 5$ is highly correlated (Daoud, 2017).

4.1 Scatterplot findings on the state level

Figure 2

Grouped scatterplot for Evangelical rates and Mask Wearing on the State Level

Grouped Scatter of Percentage of people wearing masks by Evangelical Protestant--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

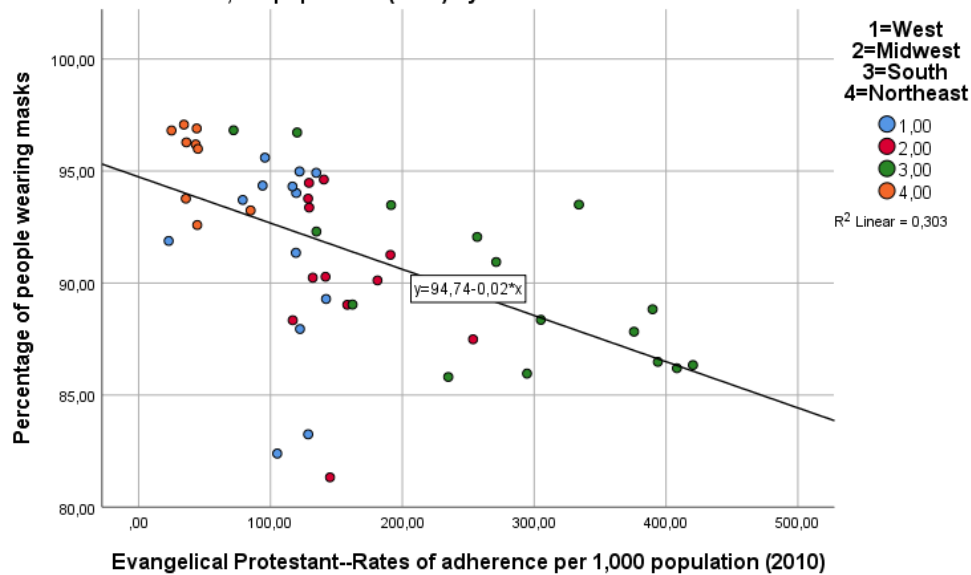


Figure 3

Grouped scatterplot for Mainline Protestant rates and Mask Wearing on the State Level

Grouped Scatter of Percentage of people wearing masks by Mainline Protestant--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

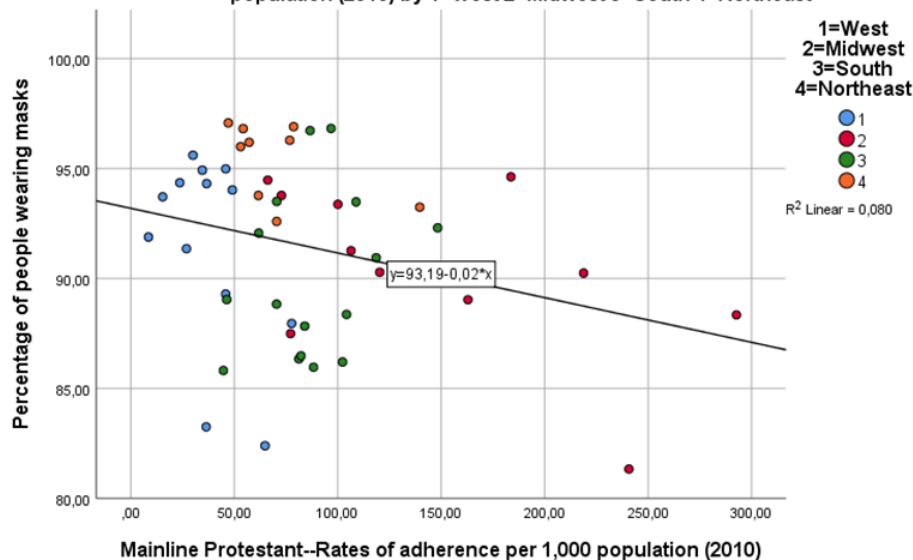


Figure 4

Grouped scatterplot for Catholic rates and Mask Wearing on the State Level

Grouped Scatter of Percentage of people wearing masks by Catholic--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

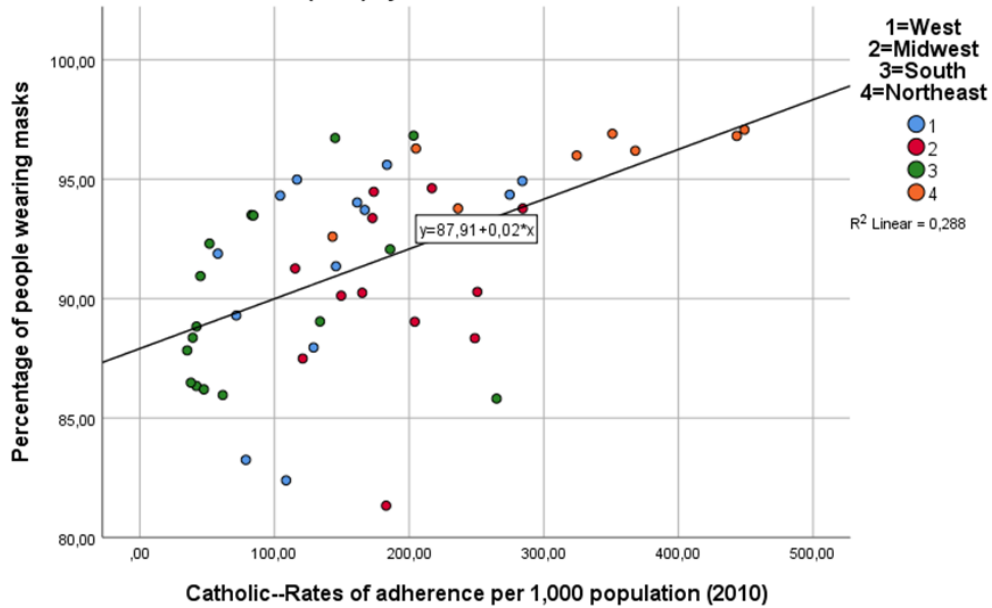
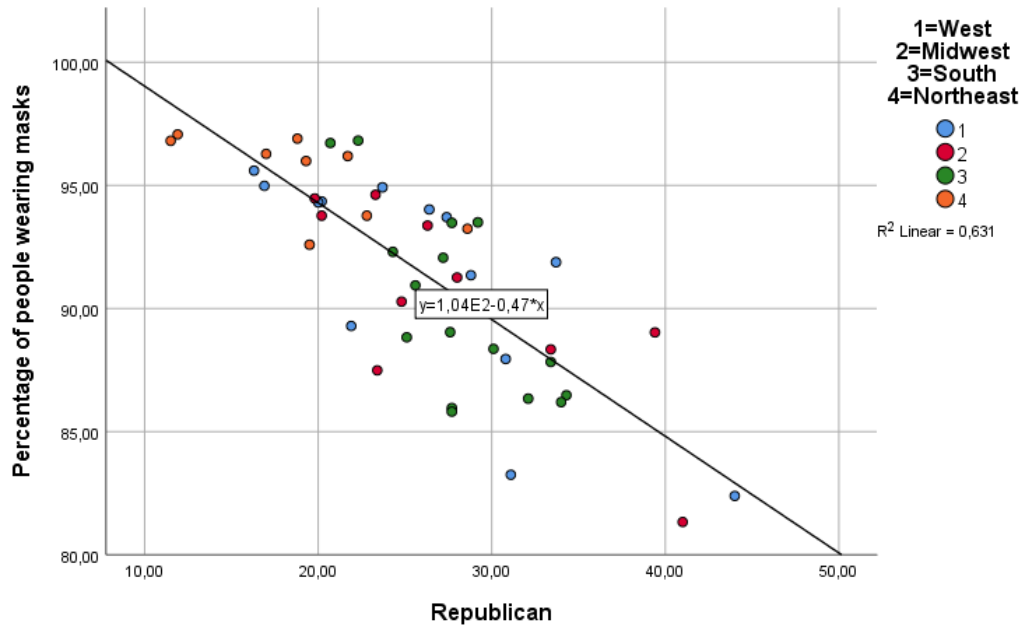


Figure 5

Grouped scatterplot for Republicanism and Mask Wearing on the State Level

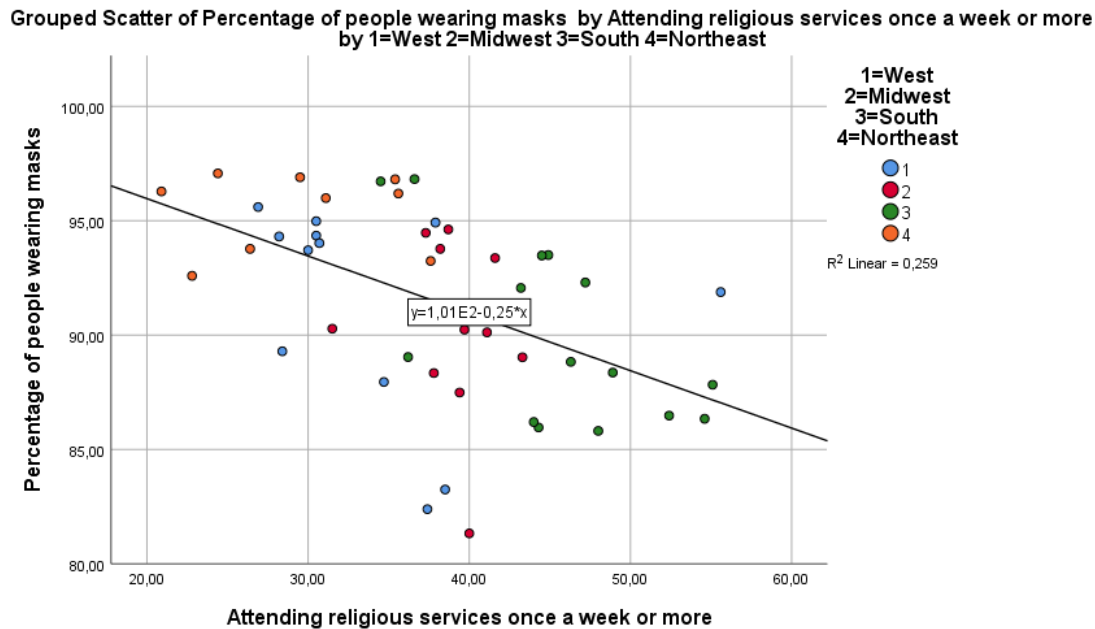
Grouped Scatter of Percentage of people wearing masks by Republican by 1=West 2=Midwest 3=South 4=Northeast



N=50. Sources: State level data on religiousness and Covid-19 policy compliance

Figure 6

Grouped scatterplot for Attending Religious Services and Mask Wearing on the State Level



N=50. Sources: State level data on religiousness and Covid-19 policy compliance

4.1.1 Religiousness

Before conducting a multivariate regression analysis, a bivariate regression analysis was done and scatterplots for the different denominations and compliance variables were calculated. What can be seen in the scatterplots above is a clear correlation between religiousness and mask-wearing (figure 2-6). For mainline Protestants and Evangelists, the scatterplot shows that the higher the rates of adherents the lower the percentage of people wearing masks (figure 2 and 3). For Catholics, the opposite relationship applies (figure 4). Whereas the more Catholics in a state, the higher the compliance rates for mask-wearing. The other compliance measurements show similar patterns, where Catholicism is related to higher policy compliance (less mobility, more people staying at home) and Evangelism and mainline Protestantism are associated with higher mobility and fewer people staying at home.

The second religious variable on the state level, which is attending religious services once a week or more, also shows an interesting pattern (figure 6). When looking at the bivariate models (state), it becomes clear that attending religious services once a week or more is significant for all three dependent variables (mask-wearing, mobility, staying at home). The relationship between mask-wearing is significant and negative. Furthermore, the more people attend religious services once a week or more, the higher the mobility in the state and the fewer people staying at home. These relationships stay significant when controlling for urbanization. Based on these findings hypothesis three can be

tested: *The larger the share of people attending religious services once a week or more in a state, the lower the compliance with Covid-19 policies.* All findings with all three dependent variables show that indeed, the higher the attending of religious services, the lower the policy compliance. Hence, hypothesis three can be confirmed.

All the scatterplots also show generally lower policy compliance of southern states, when compared to west, Midwest, and northeastern states.

4.1.2. Conservatism

The relationship between Republicanism and policy compliance is also visualized in scatterplots. The scatterplots show a correlation between Republicanism and less policy compliance. States that have a higher number of people adhering to Republicanism are more likely to have lower compliance rates. Meaning, more mobility, fewer people wearing masks, and fewer people staying at home. All the scatterplots also show generally lower policy compliance of southern states, when compared to west, midwest, and northeastern states.

4.1.3. Trust

Trust has an evident relationship with the compliance variables. Low trust in Biden and the state government, are negatively related to the percentage of people wearing masks and the people staying at home. While being positively related with the mean mobility of the state. The relation is the strongest with the percentage of people wearing masks. The relationship is less strong with the people staying at home. Additionally, for the people staying at home, southern states are the states with the fewest people staying at home.

4.2 Regression models on the state level

Table 3

Regression Analysis for Evangelical rates and Mask Wearing on the state level

	Model 1			Model 2			Model 3		
Variable	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Evangelical Rates	-,021**	,005	-,551	-,009*	,003	-,251	-,006	,003	-,158
Republican				-,408**	,055	-,684	-,377**	,057	-,632
Trust Trump High							-,209	,141	-,176
Trust State Government Low							-,233*	,082	-,244
Trust Biden Low							,100	,120	,103

*Dependent Variable: Mask Wearing N=50. Sources: State level data on religiousness and Covid-19 policy compliance *p<.05 **p<.01*

Table 4*Regression Results for Mainline Protestantism and Mask Wearing on the state level*

	Model 1			Model 2			Model 3		
Variable	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Mainline Protestant Rates	-,020*	,010	-,283	-,002	,007	,028	-,002	,006	-,045
Republican				-,480**	,057	-,805	-,403**	,062	-,675
Trust Trump High							-,268	,143	-,226
Trust State Government Low							-,273*	,082	-,286
Trust Biden Low							,141	,122	,144

*Dependent Variable: Mask Wearing N=50. Sources: State level data on religiousness and Covid-19 policy compliance *p<.05 **p<.01***Table 5***Regression Results for Catholicism and Mask Wearing on the state level*

	Model 1			Model 2			Model 3		
Variable	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Catholic Rates	,021**	,005	,537	,007	,004	,178	,004	,004	,114
Republican				-,420**	,060	-,704	-,383**	,060	-,642
Trust Trump High							-,289*	,141	-,243
Trust State Government Low							-,243*	,084	-,254
Trust Biden Low							,166	,121	,176

*Dependent Variable: Mask Wearing N=50. Sources: State level data on religiousness and Covid-19 policy compliance *p<.05 **p<.01*

4.2.1 Religiousness

The bivariate regression models on the state level without the control variable urbanization show that evangelicals and mainline protestant are significant with the Covid-19 policy compliance variables, mask-wearing, mobility, and staying at home (table 3 and 4). An increased rate of mainline Protestants and Evangelists is negatively correlated with the percentage of people wearing masks, while they are

positively related to mobility, whereas the mobility of a state increases with the rate of evangelicals and mainline Protestants. The same observation can be made with the people staying at home. However, the opposite observation can be made for Catholics. Whereas the higher the rate of Catholics, the higher the percentage of people wearing masks (figure 5), the lower the mobility, and the higher the number of people staying at home.

When these bivariate relationships are controlled, all religious adherence becomes non-significant for the dependent variable mobility. For the dependent variable mask-wearing, only the religious adherence mainline Protestant becomes non-significant, while the variables Evangelicals and Catholics stay significant. The same applies to the relationship with people staying at home: mainline Protestants are non-significant, while Evangelicals and Catholics stay significant.

These findings can be used to test the hypotheses that were designed earlier in this paper.

Hypothesis two a is: *The larger the share of religious groups in a state, the lower the compliance with Covid-19 policies.* This hypothesis has to be rejected as not all denominations can be **associated with lower policy compliance.**

Hypothesis four a can also be tested with the findings above: *The larger the share of evangelical groups in a state, the lower the compliance with Covid-19 policies.* Based on the findings hypothesis three can be confirmed as the results show that evangelicals are related to lower policy compliance on all three dependent variables.

The last hypothesis that can be answered for the state level is hypothesis one a: *The larger the share of mainline protestant groups in a state, the higher the compliance with Covid-19 policies.* This hypothesis has to be rejected as the findings show the opposite of what was expected in the hypothesis.

In the multivariate analysis with the dependent variable mean mobility, the attending of religious services stays significant when the trust variables are added. High trust in Trump and low trust in the government do not stay significant. However, when the variable Republicanism is added, the variable attending religious services once a week or more is no longer significant with mean mobility as the dependent variable.

With the dependent variable people staying at home, attending religious services stays significant with

The measurement of the concept behaving is only measured on the state level as data was not available for the county level.

4.2.2 Trust

To measure low trust in state government, the variable was grouped into high trust and low trust. High trust was computed with the measurements trust in state government some and trust in state government a lot. Low trust in the state government was computed with trust in state government not at all and trust in state government not too much. The grouping allowed for a more coherent analysis.

The regression models show that trust in the state government is significant for mask-wearing (table 3-5). It is neither significant for mobility nor staying at home. Low trust in state government is associated with a lower percentage of people wearing masks. Furthermore, high trust in Trump is also associated with a lower percentage of people wearing masks. It is also not significant for mobility and staying at home. Low trust in Biden is not significant for any of the dependent variables. High trust in Trump and low trust in the state government are also significant when controlling for urbanization.

As the relationships with mobility and people staying at home were non-significant in the bivariate analysis, they were also non-significant in the multivariate analysis. However, for mask-wearing when investigating all three trust variables, only the variable high trust in Trump and low trust in the state government stay significant. When investigating multicollinearity, there is a moderate correlation. When adding the mainline Protestant variable all variables, except the low trust in Biden, stay significant. There is only very light multicollinearity of mainline Protestants with a VIF of 1,001. When controlling for urbanization, the mainline Protestant variable becomes non-significant. When adding the Catholic variable to the trust variables, only high trust in Trump and the Catholic variable stays significant. There is only moderate multicollinearity with the Catholic variable. When controlling for urbanization, the Catholic variable becomes non-significant. When adding the evangelical variable, no trust variable stays significant while the evangelical variable stays significant. When controlling for urbanization, the variable high trust in Trump becomes non-significant, while the variable Evangelicalism stays significant. There is only moderate collinearity with the evangelical variable.

These findings can be used to test hypothesis five. Hypothesis five is: *States where the share of trust in the state government is low, religious groups portray low Covid-19 policy compliance.* Based on the findings it can be concluded that low trust in the state government can be assumed with the reduction of mask-wearing. However, it cannot be said for multiple compliance measurements. Henceforth, hypothesis five in its original form has to be rejected.

4.2.3. Mediation of Trust on the State Level

Figure 7

Mediation Effect of Low Trust in the State Government on the State Level

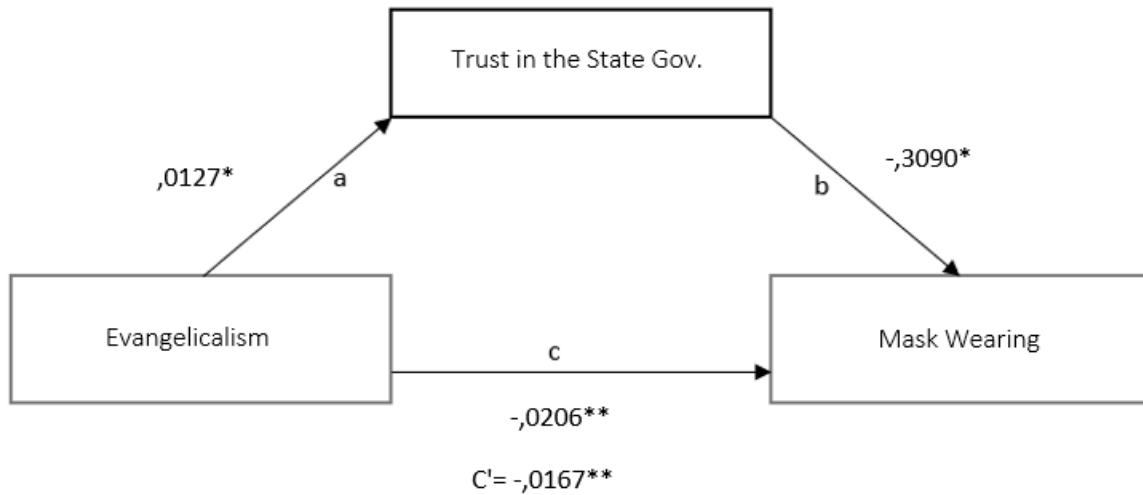
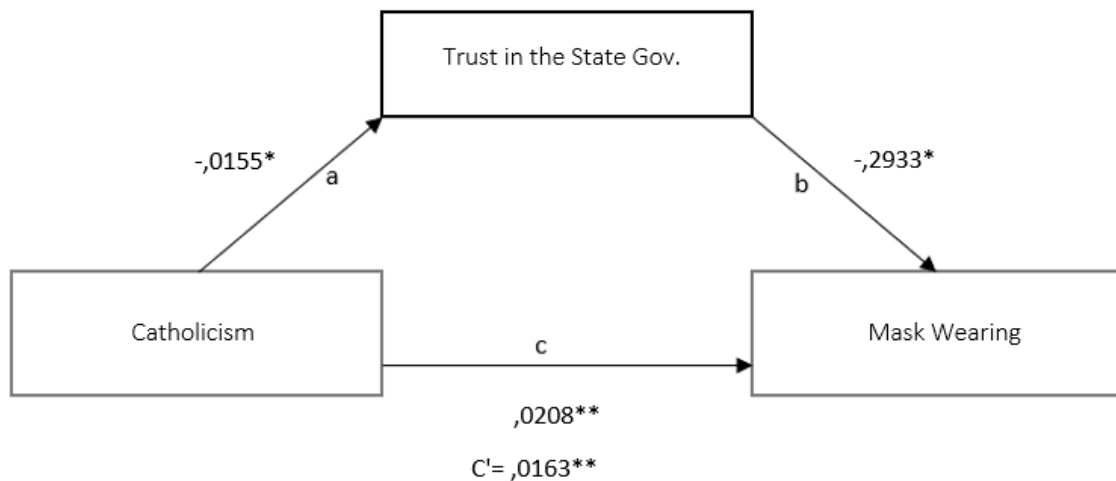


Figure 8

Mediation Effect of Low Trust in the State Government on the State Level



A Mediation analysis is done to test for different mediation effects of low trust in the state government (for convenience called trust in the state government in the figures) by using the SPSS add-on Process by Andrew F. Hayes. A mediation is found for the relationship between Catholicism and mask-wearing as well as Evangelicalism and mask-wearing (figure 7 and 8). Evangelicalism is significantly predicting

low trust in the state government (figure 7) ($B=.0127$) and low trust in the state government is significantly predicting mask-wearing ($B=-.3090$). Based on the analysis low trust in the state government is partially mediating the relationship between Evangelicalism and mask-wearing, indirect effect $ab=-.0039$, 95%-CI $[-.0106; -.0002]$.

A partial mediation is also found for the relationship between Catholicism and mask-wearing (figure 8). Catholicism is significantly predicting low trust in the state government ($B=-.0155$) and low trust in the state government is significantly predicting mask-wearing ($B=-.2933$). Based on the findings, low trust in the state government is partially predicting the relationship between Catholicism and Mask wearing with an indirect effect $ab=.0046$, 95%- CI $[.0005; .0108]$.

Trust does not act as a mediator in any other relation.

4.2.4 Conservatism

Republicanism is significant in all the models that tested the relationship for the dependent variable mask-wearing (table 3-5). The variables Catholicism and mainline Protestantism were not significant when adding Republicanism into the regression (table 4 and 5). When adding Republicanism to Evangelicalism and adding the trust variables, Evangelicalism lost its significance as well (table 3). Republicanism also stays significant with the dependent variable mean mobility. However, for the dependent variable staying at home, Republicanism is not significant with Evangelicalism and Catholicism. However, Republicanism stays significant with mainline Protestantism and the dependent variable staying at home, even after controlling.

When Republicanism is significant, the coefficients are quite strong. For mask-wearing when analyzing the relationship of Catholicism and Republicanism, the Unstandardized B is $-.383$ (table 5). This strong coefficient remains with the other mask-wearing relationships as well. Only for mask-wearing, Evangelicalism, Republicanism, and the trust variables are the unstandardized B slightly smaller with $-.377$ (table 3). This pattern repeats itself in the other analyses with other dependent variables as well. Thus, if Republicanism is significant, it has a strong impact on the relationship. Republicanism is thereby always an indicator for lower policy compliance. Meaning, lower mask-wearing numbers, fewer people staying at home (if significant), and more mobility.

4.2.5 Mediation Conservatism on the State Level

Figure 9

Mediation Effect of Republicanism on the State Level

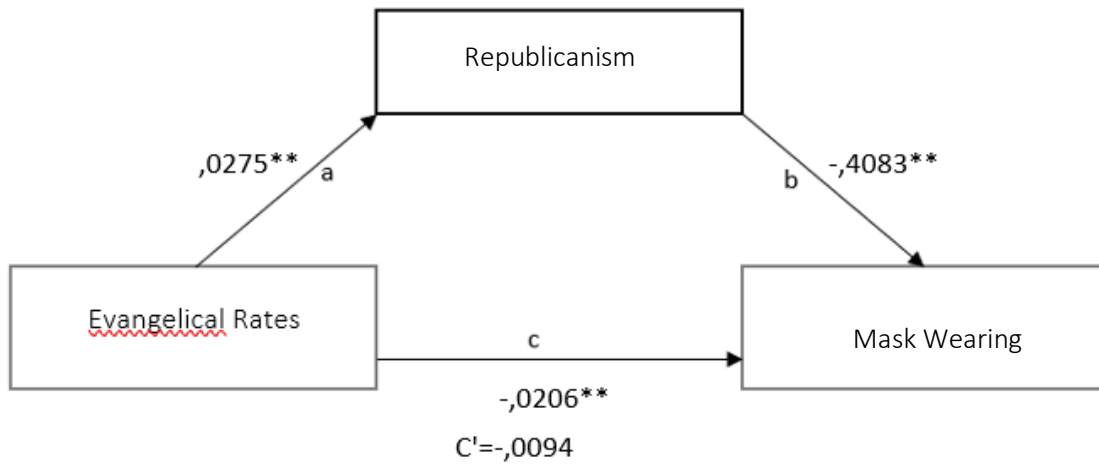
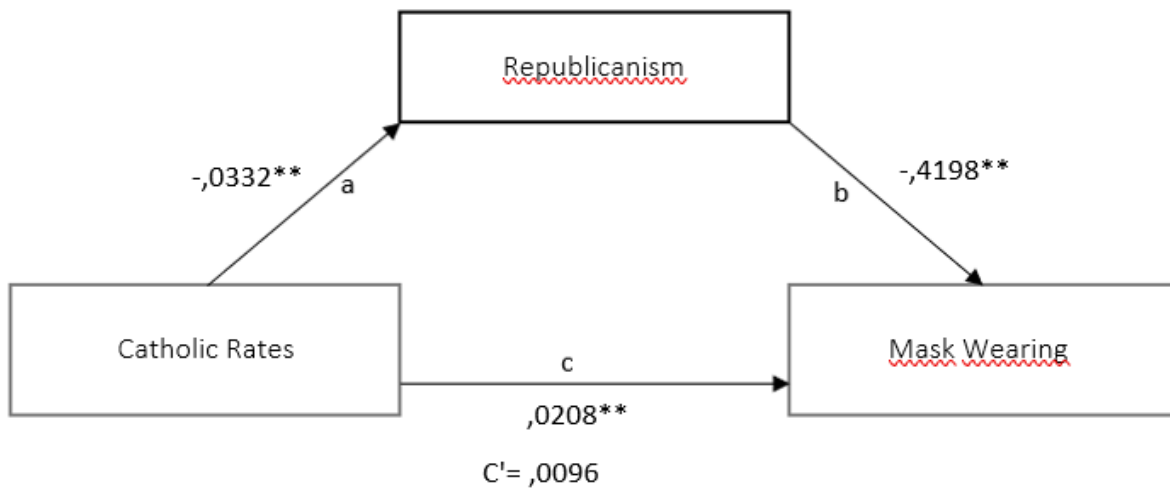


Figure 10

Mediation Effect of Republicanism on the State Level

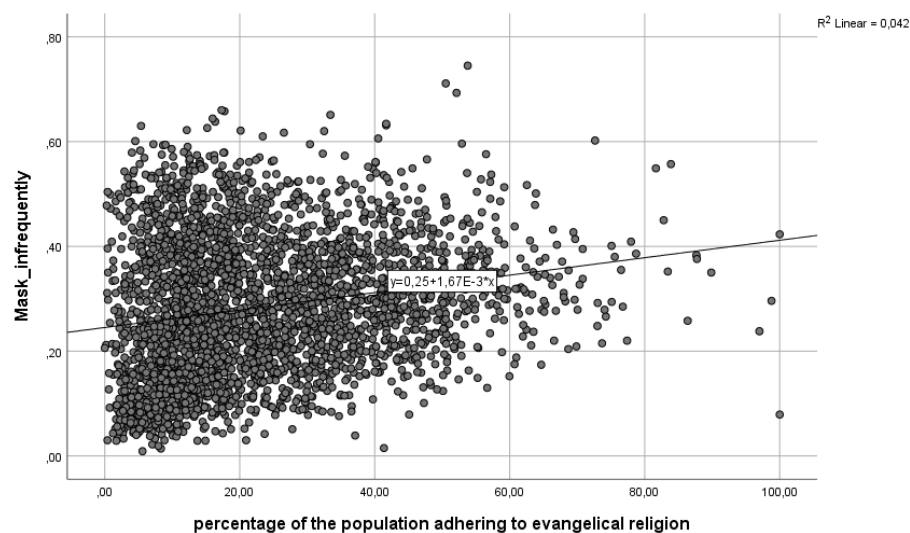


Based on the mediation hypothesis, a mediation analysis was run. What was found for the relationship between Catholicism and mask-wearing and Evangelicalism and mask-wearing, is that the relationship is fully mediated by Republicanism (figure 9 and 10). In figure 10, the mediator was significantly predicted by Catholic Rates ($B = -.0332$) while the mediator significantly predicted mask-wearing ($B = -.4198$). Henceforth, the relation between Catholicism and mask-wearing is mediated by Republicanism, indirect effect $ab = .0139$, 95%- CI [.0072; .0205]. In figure 9, Republicanism was also significantly predicted by Evangelical Rates ($B = .0275$) while Republicanism significantly predicted mask-wearing ($B = -.4083$). Based on the analysis, Evangelicalism and mask-wearing is also mediated by Republicanism, indirect effect $ab = -.0112$, 95%- CI [-.0175; -.0055]. Similar to this mediation, Republicanism also mediates the relationships between mainline Protestantism and staying at home, Catholicism and mobility, and Evangelicalism and mobility (the figures for these mediations can be found in the annex). The other relations are not mediated by Republicanism.

4.3 Scatterplot Findings on the County Level

Figure 11

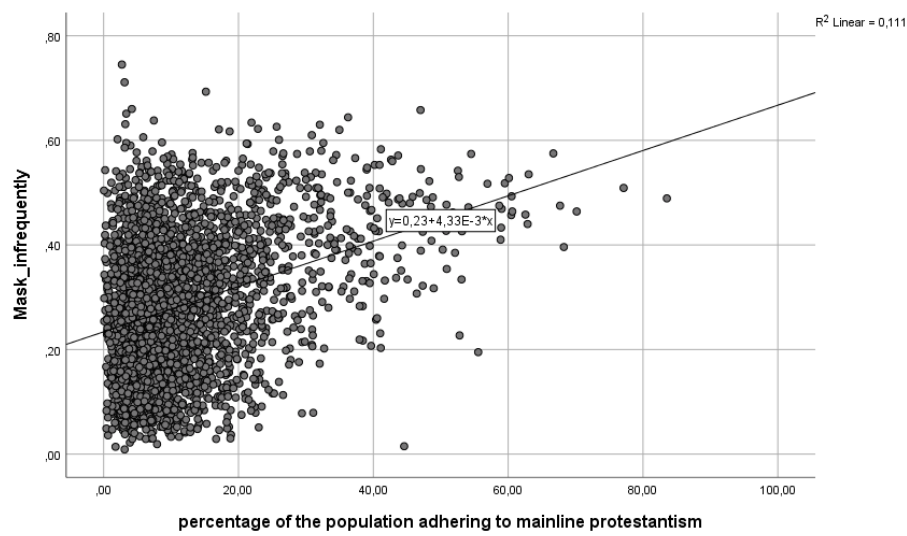
Scatterplot for Evangelical Percentage and Infrequent Mask Wearing on the County Level



N=3123. Sources: County level data on religiousness and Covid-19 policy compliance

Figure 12

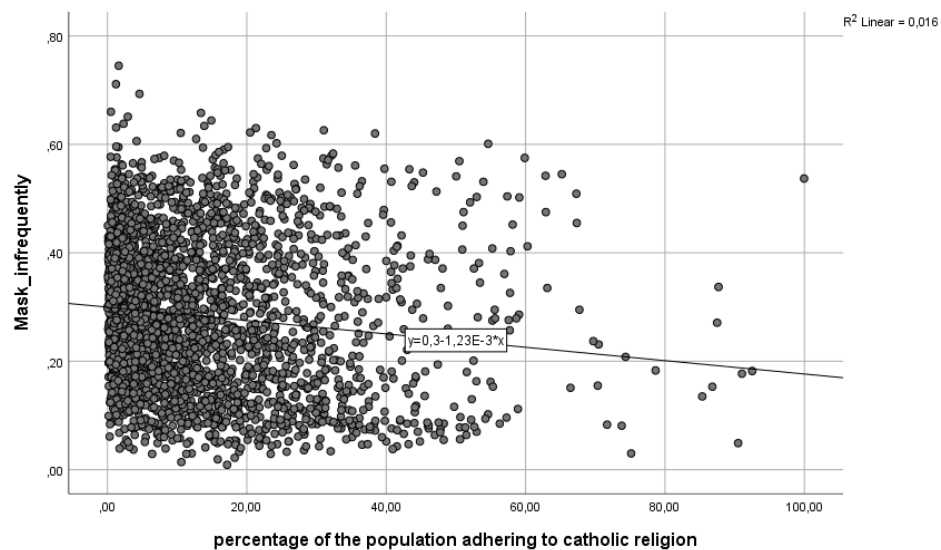
Scatterplot for Mainline Protestant Percentage and Infrequent Mask Wearing on the County Level



N=3114. Sources: County level data on religiousness and Covid-19 policy compliance

Figure 13

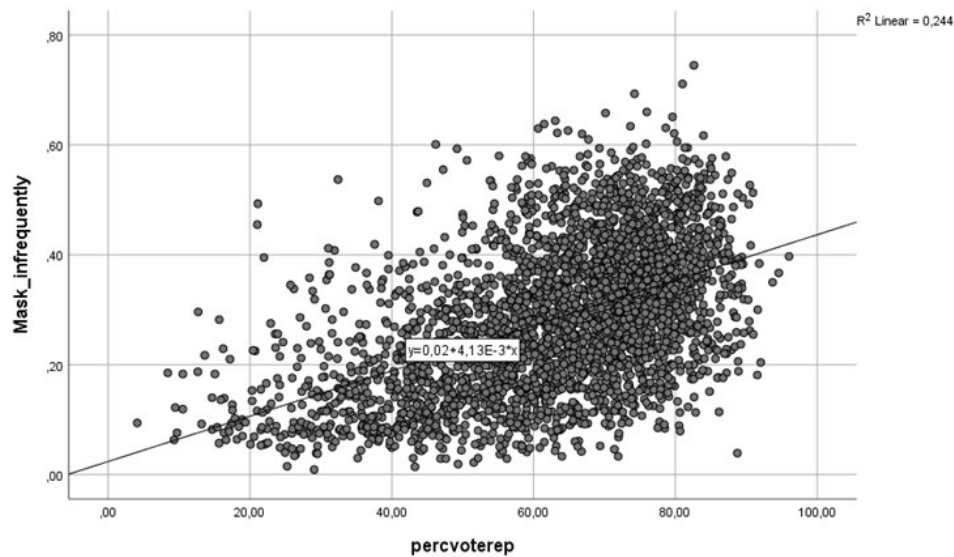
Scatterplot for Catholic Percentage and Infrequent Mask Wearing on the County Level



N= 2959. Sources: County level data on religiousness and Covid-19 policy compliance

Figure 14

Scatterplot for Republican Percentage and Infrequent Mask Wearing on the County Level



N=3142. Sources: County level data on religiousness and Covid-19 policy compliance

4.3.2 Religion

The scatterplots visualizing the relationship between the different religious adherences and infrequent mask-wearing show clear correlations, even if, due to the higher N, less strong than on the state level. Infrequent mask-wearing is more likely in states with a higher percentage of the population adhering to mainline Protestantism and Evangelicalism (figure 11 and 12). While a higher percentage of Catholics in a county is associated with lower infrequent mask-wearing (figure 13). Thereby recreating the findings from the state level on the county level.

The relationship between religiousness and the percentage of people staying at home on the county level was not as strong as the infrequent mask-wearing or the relation on the state level. What can be seen, however, is that a higher percentage of evangelicals is associated with fewer people staying at home. While a higher percentage of Catholics can be associated with a higher percentage of people staying at home.

4.3.3 Conservatism

Visualizing conservatism, meaning Republicanism and infrequent mask wearing a similar result to the state level can be observed. Whereas higher percentages of Republican Voters in a county can be associated with higher percentages of infrequent mask-wearing (figure 14). Similar findings apply to the percentage of people staying at home and Republican voters. Again, similar to the findings on the state level.

4.4 Multivariate Analysis

Table 6

Regression Results for Evangelicalism and Infrequent Mask Wearing on the county level

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Evangelical Percentage	,002**	,000	,206	9,206E-5	,000	,011
Republican				,004**	,000	,487

Dependent Variable: Infrequent Mask Wearing N=3123. Sources: County level data on religiousness and Covid-19 policy compliance
**p<.05 **p<.01*

Table 7

Regression Results for Mainline Protestantism and Infrequent Mask Wearing on the county level

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Mainline Protestant Percentage	,004**	,000	,333	,003**	,000	,268
Republican				,004**	,000	,458

Dependent Variable: Infrequent Mask Wearing N=3123. Sources: County level data on religiousness and Covid-19 policy compliance
**p<.05 **p<.01*

Table 8*Regression Results for Catholicism and Infrequent Mask Wearing on the county level*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Catholic Percentage	-,001**	,000	,333	-2,563E-5	,000	-,003
Republican				,004**	,000	,494

*Dependent Variable: Infrequent Mask Wearing N=2959. Sources: County level data on religiousness and Covid-19 policy compliance***p<.05 **p<.01*

When looking at the multivariate analysis of Republicanism with the evangelical percentage and the dependent variable percentage of people staying at home, both variables are significant. However, Evangelicalism has a bigger impact on people staying at home than Republicanism does. When controlling for urbanization, the Republican variable becomes non-significant while the evangelical variable stays significant. A moderate correlation was found between the variables. When analyzing Republicanism with mainline Protestantism both variables are significant. However, the relationships go in the opposite directions as well. Where mainline Protestantism can be associated with a higher percentage of people staying at home and Republicanism can be associated with a lower percentage of people staying at home. Moderate collinearity was detected between the variables and no change in the significance of the variables occurs when controlling for urbanization.

When analyzing the same relationships with the dependent variable of infrequent mask-wearing different results can be found. Analyzing Republicanism with the evangelical variable shows that the evangelical variable is non-significant while the Republican variable shows a small relationship with more infrequent mask-wearing (table 6). Moderate collinearity can be detected, and the variable Republicanism remains significant when controlling for urbanization. When analyzing Republicanism with the percentage of the population adhering to the Catholic religion, it can be seen that the Catholic variable is non-significant (table 8). There is only moderate collinearity, and the Republican variable remains significant after controlling for urbanization. When analyzing Republicanism with mainline Protestantism both variables remain significant but only have a small influence on people wearing masks infrequently (table 7). Both variables remain significant after controlling.

Based on the findings described above hypothesis six b can be tested: *Counties with a higher number of conservative citizens are less likely to comply with Covid-19 policies.* The findings show that Republicanism as an indicator for conservatism has a negative effect on policy compliance whereas, it

has a bigger negative effect overall on people not staying at home compared to infrequent mask-wearing. Nevertheless, hypothesis six b, based on the findings, can be confirmed.

4.4.2. Mediation Conservatism on the County Level

Figure 15

Mediation Effect of Republicanism on the County Level

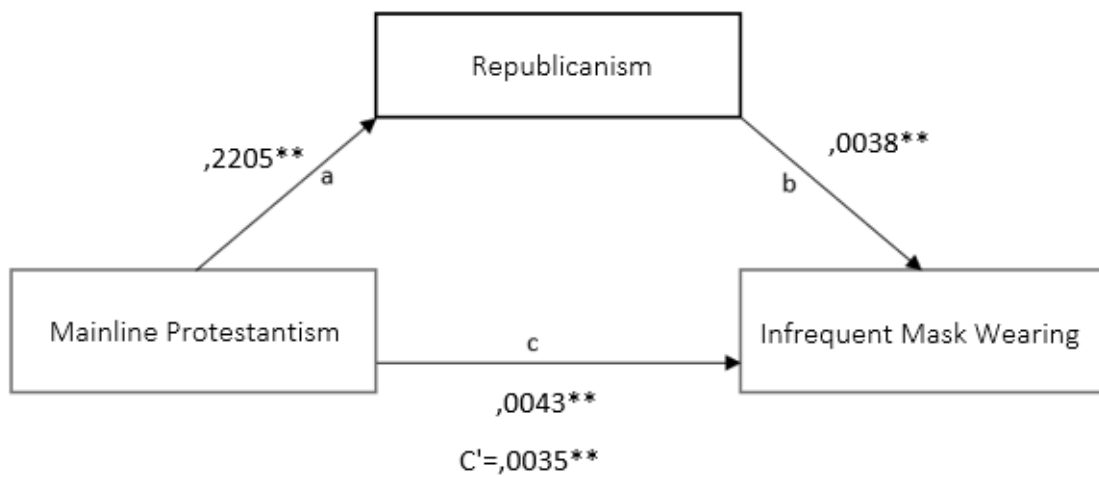
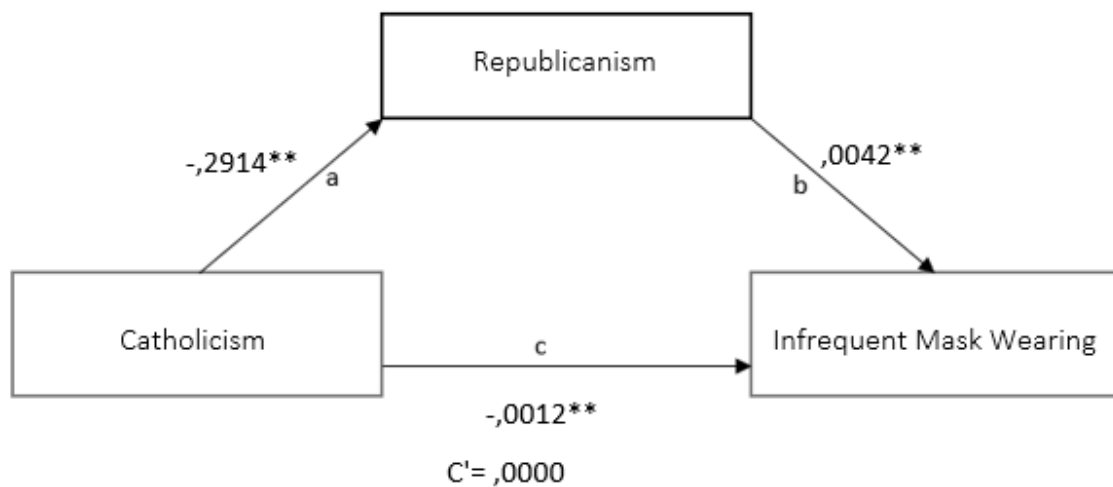


Figure 16

Mediation Effect of Republicanism on the County Level



On the County level, only Republicanism is investigated as a mediator, as no trust variables were available for this research at the county level.

Based on the figures above, the relationship between Evangelicalism and infrequent mask-wearing is fully mediated by Republicanism (figure 15). Evangelicalism thereby significantly predicts Republicanism ($B = .3825$) and Republicanism significantly predicts infrequent mask-wearing ($B = .004$). Henceforth, the relation between Evangelicalism and infrequent mask-wearing is mediated by Republicanism, indirect effect $ab = .0016$ 95%-CI [.0014; .0017]. The relationship between mainline Protestantism and infrequent mask-wearing is partially mediated by Republicanism (figure 16), indirect effect $ab = .0008$ 95%-CI [.0007; .0011]. And Catholicism and infrequent mask-wearing is again fully mediated by Republicanism, indirect effect $ab = -.0012$ 95%-CI [-.0014; -.0010]. The findings look similar for the dependent variable staying at home, where the mediator Republicanism acts as a partial mediator with all three religious' indicators (as seen in the annex).

5. Discussion

The initial question leading this paper is: In how far Covid-19 policy compliance in American states and counties can be explained by religiousness? Covid-19 policy compliance can be partially explained by religious variables. However, the relationships go in different directions depending on the religious variable used and other aspects such as behavior, trust, and political ideology influence the relationship as well.

5.1 Religiousness

The second hypothesis is concerned with whether higher numbers of religiousness would lead to lower policy compliance. Based on the data, it cannot be said that all the denominations that were investigated in this paper, lead to lower policy compliance. As both on the state and the county-level, the Catholic adherence shows higher policy compliance. Meaningless mobility, more staying at home, and more people who wore masks as opposed to the Evangelists and mainline Protestants. This pattern has been found in other studies as well where Catholics have a stronger social pressure (Martin, 1985) however, when other norms are concerned, for example in tax evasion, Catholics are less strict (Guiso, Sapienza, & Zingales, 2003). Thus, hypotheses two "a" and "b", which are: *"The larger the share of religious groups in a state/county, the lower the compliance with Covid-19 policies"* must be rejected. What must be mentioned here, is that all effects were significant both on the state and the county level without a control variable. However, as all variables are significant on the county level with the control variable, the lack of significance on the state level was likely due to the small N of 50. In general, the effects are smaller on the state level, further underlining the argument. Thus, it can be concluded that the relationships are influential and have an impact on policy compliance. However, what still needs to be mentioned is that mask-wearing was found to have less influence on the county level. This may be due to the different data that was collected by the New York Times. Future research should focus on finding new mask-wearing data to determine whether the effect of mask-wearing is lower on the county level. Based on these findings a different hypothesis for future research can be proposed: The larger the share of evangelical and mainline Protestant groups in a state/county the lower the compliance with Covid-19 policies.

Hypothesis three is: *The larger the share of people attending religious services once a week or more in a state, the lower the compliance with Covid-19 policies.* This hypothesis was only investigated on the state level due to a lack of data on the county level. The data shows that the larger the share of people attending religious services once a week or more, the lower the mask-wearing, the higher the mobility, and the fewer people stay at home. Similar findings were made in the Netherlands by Vermeer and Kregting who found that higher religiousness, including church attendance, was leading to more hospitalization (Vermeer & Kregting, 2020). However, there was no in-depth analysis of super-spreader

events such as carnival in the Netherlands. This finding thus suggests that the higher hospitalization of religious groups can be traced back to lower policy compliance which is in line with the findings from this study. When comparing these findings to the findings on religious adherence, it becomes obvious that the regular attending of religious services has a bigger impact on policy compliance than religious adherence. Thus, the behaving aspect of religiosity is more important on policy compliance than adherence alone.

Hypothesis four is: *The larger the share of evangelical groups in a state/county, the lower the compliance with Covid-19 policies.* Both the hypothesis on the state and the county level can be confirmed. The strongest coefficient at the state level is mobility. Where for every increase of evangelicals, the mobility increases by .036. Thus, the mobility changed by .036 compared to the baseline mobility. The strongest relation on the county level is found with the dependent variable people staying at home. When comparing both on the state and the county level with mainline Protestants and Catholics, it becomes obvious that evangelicals are the congregation with the strongest policy non-compliance. The study by DeFranza et al. have also found similar patterns in which mainline Protestants are just as likely to not follow shelter-in-place guidelines as other protestant and Catholic denominations. It is argued that these groups react as soon as the religious freedom and the resulting well-being of the religious group is endangered (DeFranza et al., 2020).

The most significant influence with evangelicals in this study is on the mobility and the staying at home variable. However, as the research has only been able to analyze the mean mobility on the state level, future research should aim to investigate mobility on the county level as well to strengthen the claim made by this paper.

Hypothesis one is concerned with mainline Protestant adherence. On the state level, the relation was not significant after controlling. However, this is likely due to the small N, as the relationship was significant on the county level, even after controlling for urbanization but it did decrease after controlling. Opposed to the hypothesis, however, is the direction of the relation. mainline Protestants also show lower policy compliance, meaning that they wear masks less frequently, portray higher mobility, and are less likely to stay at home. Even though they portray lower policy compliance, mainline Protestantism has a weaker effect on policy compliance than Evangelists. Thus, the first hypothesis has to be rejected as a higher number of mainline Protestants do not also portray higher policy compliance. This effect may be due to lower trust in the government and a belief in the protection by God which, based on this worldview, would make masks, staying at home, and a decline in mobility obsolete. Thus, in the group of Protestants, there is no distinction in the direction of the relationship, it is rather the intensity of the relationship that differs.

5.2 Trust

When looking at the relationship between trust and religious adherence, as the fifth hypothesis, several distinctions have to be made. Low trust in state government can be associated with lower mask-wearing. However, only the variable Evangelical adherence stays significant in the model. Thus, it can be concluded that when Evangelicals have low trust in the state government, they are even less likely to frequently wear masks. Interestingly enough, the trust in the Trump variable is not significant. This is interesting as it leaves the assumption that Evangelicals are also more likely to be Republican which in turn increases their likelihood of non-compliance. Other studies have found that especially right-wing Evangelicals are more likely to sympathize with the Republican party (Green & Guth, 1988). However, it can also be said that Evangelicals in general are likely to develop long-lasting bonds with the Republican party (Brint & Schroedel, 2011). Based on these findings it can be speculated that trust is crucial for policy compliance and needs to be available to be able to implement measures that enhance compliance. Thus, trust needs to be there first before compliance can be expected by any group.

Overall, what can be concluded for hypothesis five is that high trust in Trump seems to have a negative influence on mask-wearing. Moreover, Evangelicals that have low trust in the government are even more likely to engage in infrequent mask-wearing. However, this paper was only able to investigate the relation on the state level. Therefore, further investigation should be done on the county level by future researchers.

5.3 Conservatism

The sixth hypothesis is not concerned with religiousness but with conservatism. States with a higher number of conservative citizens are less likely to comply with Covid-19 policies. What the data shows is that indeed, Republicanism as an indicator for conservatism does have an impact on policy compliance. For mask-wearing on the state level, only the Evangelist variable stays significant with the Republican variable. Catholics and mainline Protestants lose significance. This implies, that Republicanism is a strong influence on non-compliance. Overall, for mask-wearing on the state level, the Republican variable has a stronger coefficient than any of the religious indicators. However, on the county level, the relation with mask-wearing is significant. However, the religious variable Catholics and Evangelists are not significant with Republicanism. But mainline Protestants remain significant in the model. This finding implies that the groups Evangelists and Catholics are overlapping with Republicans and that the Republican variable is more influential on the relationship. However, compared to the state level the Republican variable has a much lower coefficient which may be due to the dependent variable which comes from a different source than on the state level. The finding that Republicans are less likely to wear masks has been made before (Lehmann & Lehmann, 2020).

The dependent variable staying at home on the state level shows a different picture than the mask-wearing variable. All religious denominations remain significant, while Republicanism is not significant in the model with Evangelists. This implies, that the groups are similar in their composition. This supports previous research that the groups of Evangelists are also more likely to be Republican. Additionally, the finding implies that religiousness is more impactful on the people staying at home. On the county level, all variables remain significant. The most significant coefficients can be observed with the Evangelist denomination and Republicanism. Next to mainline Protestantism, Evangelism, and Protestantism decrease the percentage of people staying at home. Thus, they increase policy non-compliance.

Combining the observations concerning hypothesis six, it becomes clear that Protestantism has an overall stronger influence on policy non-compliance. However, evangelism has the strongest influence on non-compliance among the religious adherences. Thus, as so often, in reality, factors influencing compliance cannot be led back to one individual factor. It is rather, that both Protestantism and conservatism seem to play a role in increasing non-compliance. This finding has also been made by Perry et al. who found that it is especially religious nationalism increases non-compliance. Thus, a combination of conservative values and religiosity. This study has replicated the finding on the county level and specified it to be especially relevant for Evangelists. Catholics on the other hand, portray higher compliance than their protestant counterparts. This may be due to the lack of a central authority such as the pope that gives clear instructions that people follow because they believe in the organization that they are representing. Opposed to that stand Protestants who mainly follow the (religious) leaders of their community who may have intentions and ideas than the government.

To come back to hypothesis seven which is: *the effect of religiousness on Covid-19 policy compliance is mediated by (a) trust in the government and (b) conservative values on the state and the county level.* Several observations can be made. These hypotheses can be confirmed. Firstly, conservatism plays a more significant role on the state level as opposed to the trust variable which only partially mediates the two relationships. Thus, it can be assumed that this relation could look similar on the county level, however, this study cannot confirm that as no trust data is available on the county level. This finding speaks against other studies such as the study by Saechang and Yu, which finds that trust does have a significant impact on compliance (Saechang, Yu, & Li, 2021). Even though this study also finds significant relations with trust in the state government, its effect pales next to the variables conservatism and religiousness.

5.4 Addition to existing findings

Going back to the literature section earlier in the paper, several additions and observations can be made. Belonging as a part of religiousness is defined as the practice, salience, identification, and attendance. What has been found in this research is based on the aspect of attendance (attending religious services

once a week or more) and identification (denominations) (Lewis & De Bernardo, 2010). This research thus, adds to the importance of attending and identification, however, aspects such as salience and the actual practice (in everyday life) were not further investigated and can be investigated in future research to add to the current findings.

One important aspect that can be drawn from the findings is that non-compliance seems to be a group phenomenon. Whereas it is especially dominant within the group of Evangelists and mainline Protestants. The theory already states that religion acts as an institution that can increase the homogeneity of a network (Ben-Nun Bloom & Arikan, 2012). Within this homogenous, religious network, cooperation is increased (Johnson & Bering, 2006). And norms are shared (Bolzendahl et al., 2019). Based on this, it can be concluded that the groups that are more prone to non-compliance share this behaviour within their social group, where it gets further distributed and verified in their homogenous group, which thus, explains why it is certain religious groups that portray non-compliance while others do not.

6. Conclusion

The research set out to inquire whether conservatism and trust affect policy compliance and religion on the state and county level. Based on the research and the data analysis of this paper it can be concluded that indeed religiousness, meaning Catholicism, Evangelicalism and mainline Protestantism do have an influence on policy compliance both on the state and the county level and for different compliance measures. However, It cannot be said that all these religious groups have the same compliance behavior. The groups that are the most non-compliant are thereby both Evangelists and mainline Protestants. Catholics on the other hand, are associated with higher compliance. Thus, it is not overall religiousness that is having an impact but rather Evangelicalism and mainline Protestantism. Additionally, trust, as well as conservative values, have a negative impact on compliance as well. Especially conservatism seems to play a significant role in the relationship as it acts as a mediator in many of the relationships and has a high influence on the compliance variables. Moreover, it is also behavior that seems to be a part of causing more non-compliance. Henceforth, it is not an isolated group that is especially non-compliant but rather a set of beliefs and behaviors that are more likely to appear in a specific group (in this case Evangelists and mainline Protestants) that increase the likelihood of non-compliance.

Overall, as high trust in the government and Trump is affecting compliance as well, this aspect can help to reduce non-compliance as higher trust in the government will lead to higher compliance (MARIEN & HOOGHE, 2011). Based on this assumption policy compliance for this group can be enhanced by either increasing the trust in the government or by using leading figures such as Trump that have high trust in these groups as an example that will encourage compliance. However, beliefs are hard to change, and especially penetrating into an enclosed group that does not trust the government is a complex issue. Research has found that ideology can influence knowledge insofar that it takes over and thus behavior can be driven by ideological beliefs than knowledge (Hornsey, 2016). This leaves room for the assumption that a set of beliefs such as conservative values coupled with religious conviction will have a big impact on the compliance behavior of groups and will be hard to influence solely with knowledge and information on how to protect from the virus, further undermining the importance of the findings in this paper and increasing the need for more trust in government officials.

Going back to the hypotheses, for hypotheses two a and b which is: "*The larger the share of religious groups in a state/county, the lower the compliance with Covid-19 policies*". Was rejected as the findings did not implicate that religious groups, in general, can be associated with lower policy compliance. What the findings did show, however, was that Catholicism can be associated with higher policy compliance and mainline Protestantism and Evangelicalism can be associated with lower policy compliance.

Hypothesis three is: "*The larger the share of people attending religious services once a week or more in a state, the lower the compliance with Covid-19 policies.*" The hypothesis could be confirmed. The findings showed a significant impact and large effect on non-compliance.

Hypothesis four a and b are: "*The larger the share of Evangelical groups in a state/county, the lower the compliance with Covid-19 policies.*" These hypotheses could be confirmed both on the state and the county level.

Hypothesis one a and b are: "*The larger the share of mainline Protestant groups in a state/county, the higher the compliance with Covid-19 policies.*" These hypotheses were rejected based on the findings; it is rather the opposite direction.

Hypothesis five is: "*States where the share of trust in the state government is low, religious groups portray low Covid-19 policy compliance.*" This hypothesis could be confirmed, however, findings showed that the influence of trust was not as strong as expected and easily overshadowed by conservatism and religiosity.

Hypothesis six a and b are: "*States/Counties with a higher number of conservative citizens are less likely to comply with Covid-19 policies.*" These hypotheses could be confirmed both on the state and county level and the variable had a strong effect on non-compliance. This finding has been made by other studies as well, where conservatism can be linked directly to lower policy compliance (Rothgerber et al., 2020).

Hypothesis seven a and b are: *the effect of religiousness on Covid-19 policy compliance is mediated by (a) trust in the government and (b) conservative values on the state and the county level.* These hypotheses could be confirmed both on the state and county level. However, trust (only on state level) is less impactful than conservatism, which fully mediates most of the relationships.

Conservatism as an important factor in non-compliance has also been made by other studies. Where conservatism or Republicanism is related to lower policy compliance (Hsiehchen et al., 2020) and higher mobility (van Holm et al., 2020). Trumpism has been found to contribute to less social distancing in other studies (Barrios & Hochberg, 2020). This study adds to these findings and combines the different aspects of conservatism and trust in the state government and trust in Trump and it finds that it is a combination of factors that lead to a reproduction of non-compliance. In addition to that, this study also investigates several dependent variables (staying at home, mask-wearing, mobility).

What do the findings mean and how can they be applied to reality? The findings show that evangelicals are more prone to non-compliance when compared to other Christian denominations and people that visit religious services more frequently are also less likely to comply. Henceforth, in reality, the non-

compliance seems to be reproduced in the community. Visiting religious services means that people engage with others share beliefs and reinforce opinions and habitus thus beliefs of these groups get reproduced through these interactions. In addition to that, the group shares similar beliefs and ideologies (conservatism and low trust in the state government, high trust in Trump) which are not only reproduced but also lead to a lower likelihood of compliance. To conclude, beliefs and behavior get recreated in social groups, and the low trust in the government, the high trust in Trump, and the higher conservatism beliefs in especially Evangelist groups lead to lower compliance, which is then reproduced in the group as well.

Overall, the results show that non-compliance with corona policies is a complex issue and shows the need to act based on the needs of the specific non-compliant group. It also highlights the importance of trust and public representation as a necessity for compliance.

6.1 Bias

The research has aimed to produce a well-designed data collection and analysis. However, as data stems from different sources, some of them which are more reliable than others, the data may have some flaws that could not be reduced with the data analysis. Reliable data in this paper, means data that has been used in previous research as well or comes from a highly trusted source, such as the Census Bureau. Data such as the data from the New York Times is thereby less reliable, as it has hardly been used in previous research, and the goal here was not to create data for research but primarily for a newspaper article, which may come with less scrutiny. Moreover, not all data was available on the county level which reduces some findings, such as the finding that attending religious services once a week or more is associated with lower policy compliance, to the state level and cannot be generalized for the county level. In addition to that, the data on the county and the state level comes, in some instances, from different sources. This reduces the comparability of the findings. However, as similar aspects were measured conclusions could be drawn still. What came as a surprise in this study is the low effects on infrequent mask-wearing on the county level. However, as the findings with different data on the state level had higher effects, likely, the data is not as insightful as the data on the state level. What is also surprising is that the trust variables are not as influential as expected. This showcases the strong influence of conservatism and denomination and that, even though the trust has a role in non-compliance it is not at the forefront.

6.2 Generalizability

Only the Christian faith was analyzed, therefore conclusions cannot be made for all religious groups and should be used carefully when trying to apply the findings to other research. However, as the Christian faith is the dominant belief in the US it can be used to conclude religiousness in the American case.

Even though the study briefly mentions the individual-level mechanisms, no in-depth analysis has been done on them. As religiousness is a highly individual phenomenon (Hardy, White, Zhang, & Ruchty, 2011) and so is policy compliance (Herath & Rao, 2009), individual mechanisms may get lost. However, to paint an overview that shows tendencies of different societal groups, an aggregate study was the most suitable. Future research should go into depth about individual-level mechanisms, that may explain group behavior.

6.3 Future Research

As this research was unable to analyze data from the 2020 US Census, future research should replicate the study with the 2020 Census to find out whether the findings can be replicated or if the importance of religiousness has diminished. Additionally, research should be done with other religious groups apart from Christian groups to analyze whether they have different attitudes towards compliance. Future research could also delve deeper into the characteristics of non-compliant groups by adding variables such as gender or income groups into the analysis. Moreover, to see whether the policies impacted these groups, an analysis could be done that compares different points of time. This was not possible in this analysis as there was not a sufficient amount of data available that would cover the same or similar different time stamps.

6.4 Policy recommendations

As the study finds that especially Evangelist groups that are more likely to visit religious services once a week or more, with higher conservatism rates and low trust rates are more likely to non-comply, several recommendations can be made. Firstly, trust has to be reclaimed by the state government to be able to increase compliance. Only if the trust levels are high enough can it be reproduced within the groups which will more likely result in higher compliance with policies. A second method that can be used by itself or in addition to the first recommendation, is the use of trusted leaders within the group. These leaders can be religious leaders or public leaders such as (conservative) politicians or others. As these people are highly trusted, they will be more likely to steer the group towards higher compliance. It is expected that once the compliance rate goes up within that group, it will be reproduced and lead to even higher compliance rates.

In conclusion, looping back to the theoretical model, what cannot be changed is religiousness, as this is deeply embedded within society. Hence, either conservative values or trust in the state government need to be worked on. As stated earlier in the text, values are almost impossible to change and always a long-term project. Henceforth, a quicker solution to the problem, is to work on increasing trust in the state government. However, as conservatism has a bigger impact on non-compliance. The goal to influence these values should not be discarded and be reserved for a long-term goal.

7. References

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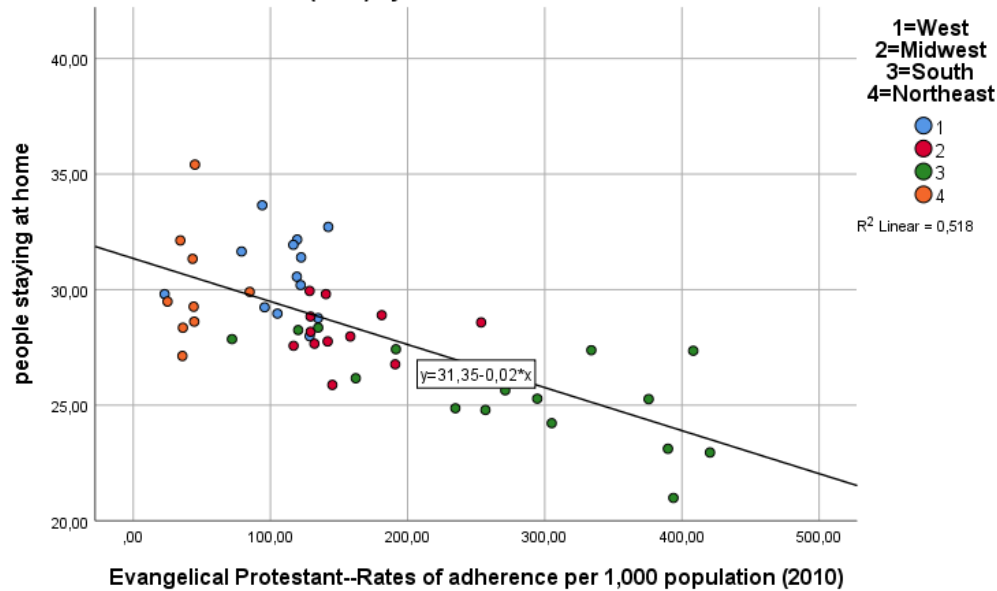
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8. Annex

Figure 17

Grouped Scatterplot of Evangelical Rates and Staying at Home on the State Level

Grouped Scatter of people staying at home by Evangelical Protestant--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

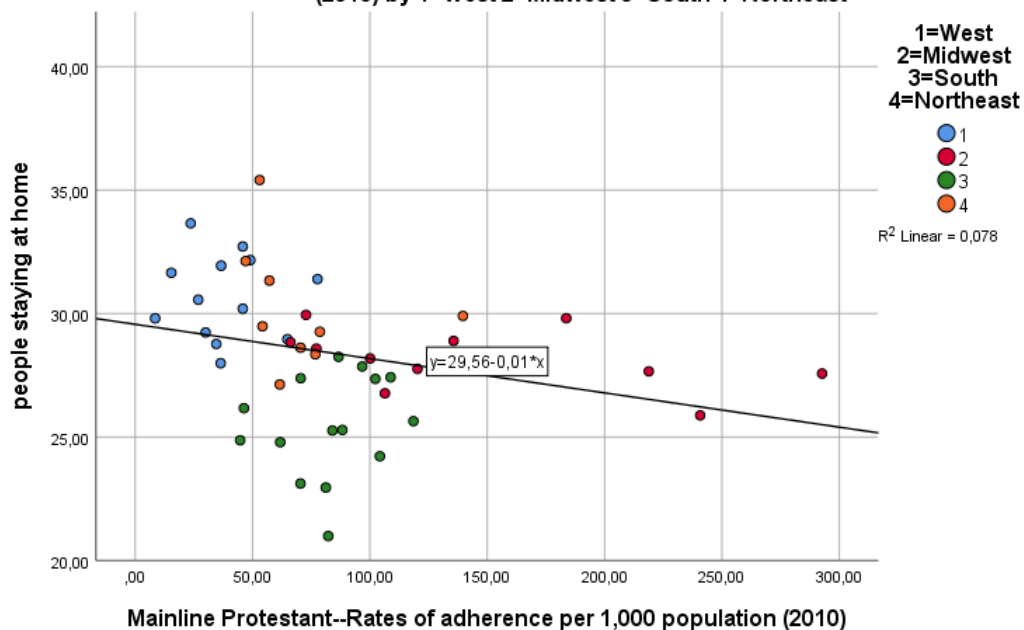


N=50. Sources: State level data on religiousness and Covid-19 policy compliance

Figure 18

Grouped Scatterplot of Mainline Protestant Rates and Staying at Home on the State Level

Grouped Scatter of people staying at home by Mainline Protestant--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

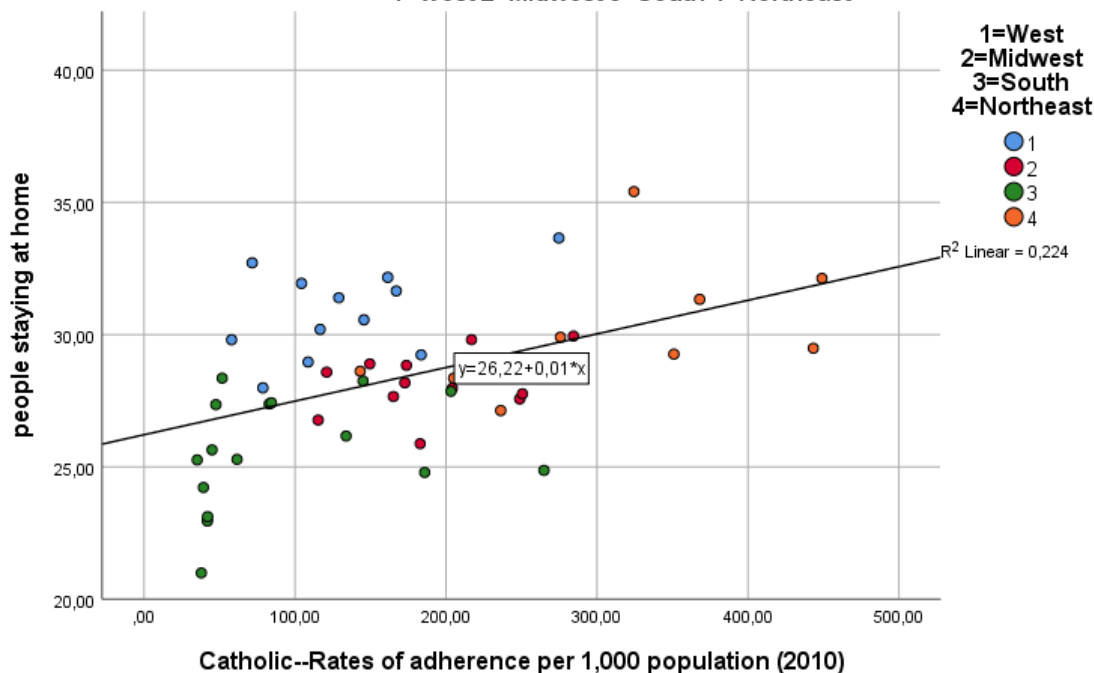


N=50. Sources: State level data on religiousness and Covid-19 policy compliance

Figure 19

Grouped Scatterplot of Catholic Rates and Staying at Home on the State Level

Grouped Scatter of people staying at home by Catholic--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

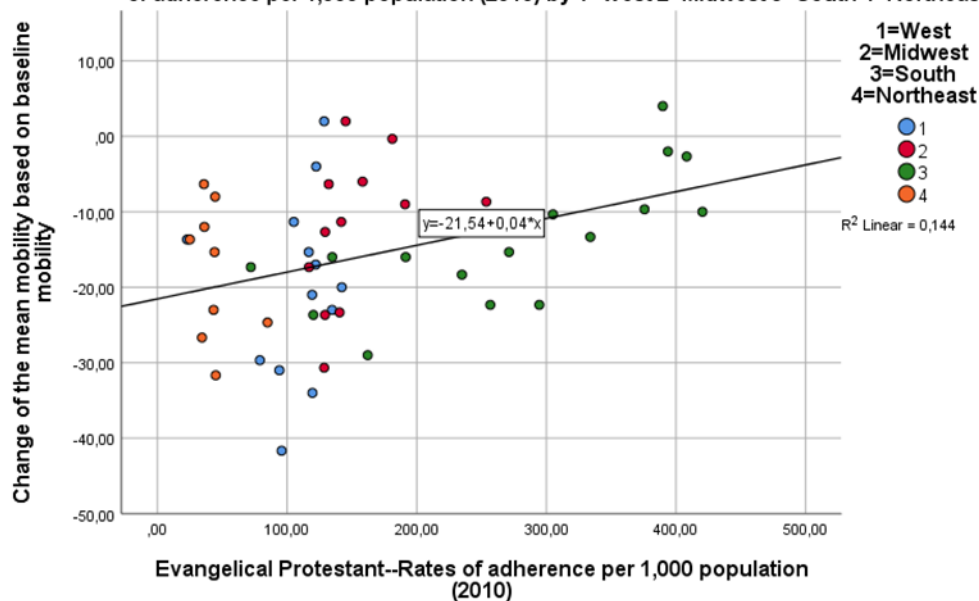


N=50. Sources: State level data on religiousness and Covid-19 policy compliance

Figure 20

Grouped Scatterplot of Evangelical Rates and Mean Mobility on the State Level

Grouped Scatter of Change of the mean mobility based on baseline mobility by Evangelical Protestant--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

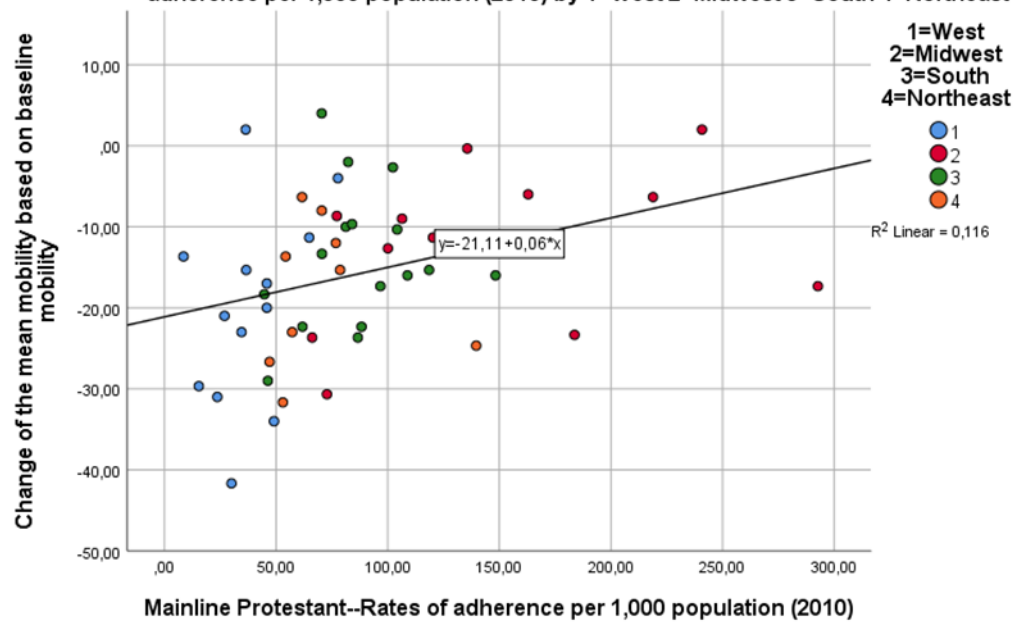


N=50. Sources: State level data on religiousness and Covid-19 policy compliance

Figure 21

Grouped Scatterplot of Mainline Protestant Rates and Mean Mobility on the State Level

Grouped Scatter of Change of the mean mobility based on baseline mobility by Mainline Protestant--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast

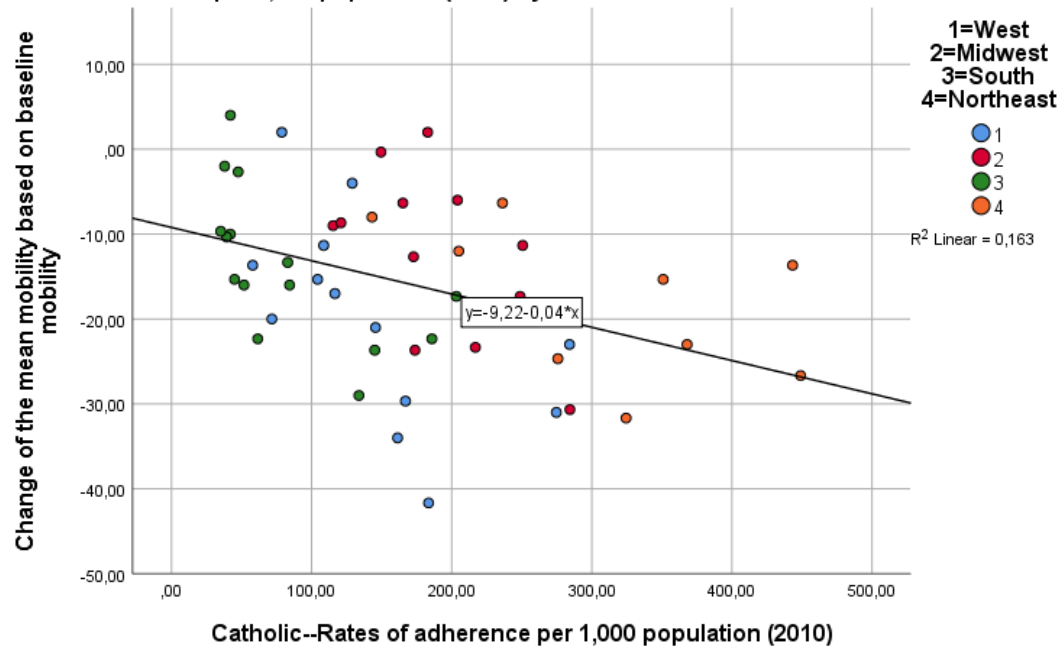


N=50. Sources: State level data on religiousness and Covid-19 policy compliance

Figure 22

Grouped Scatterplot of Catholic Rates and Mean Mobility on the State Level

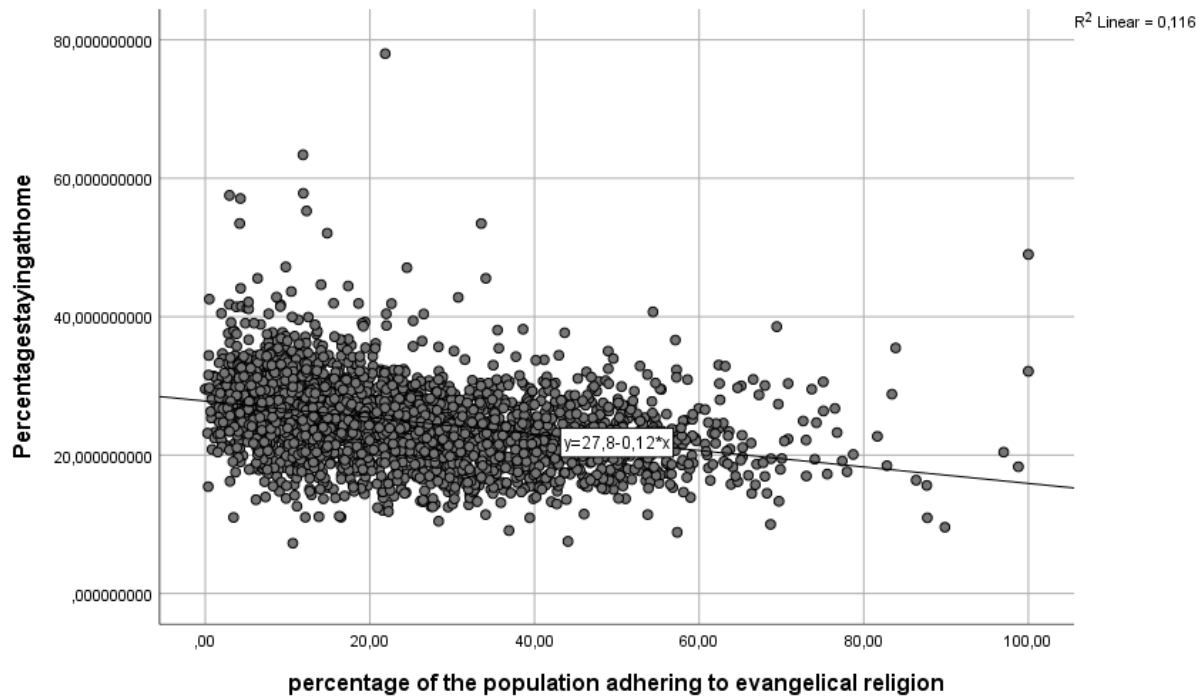
Grouped Scatter of Change of the mean mobility based on baseline mobility by Catholic--Rates of adherence per 1,000 population (2010) by 1=West 2=Midwest 3=South 4=Northeast



N=50. Sources: State level data on religiousness and Covid-19 policy compliance

Figure 23

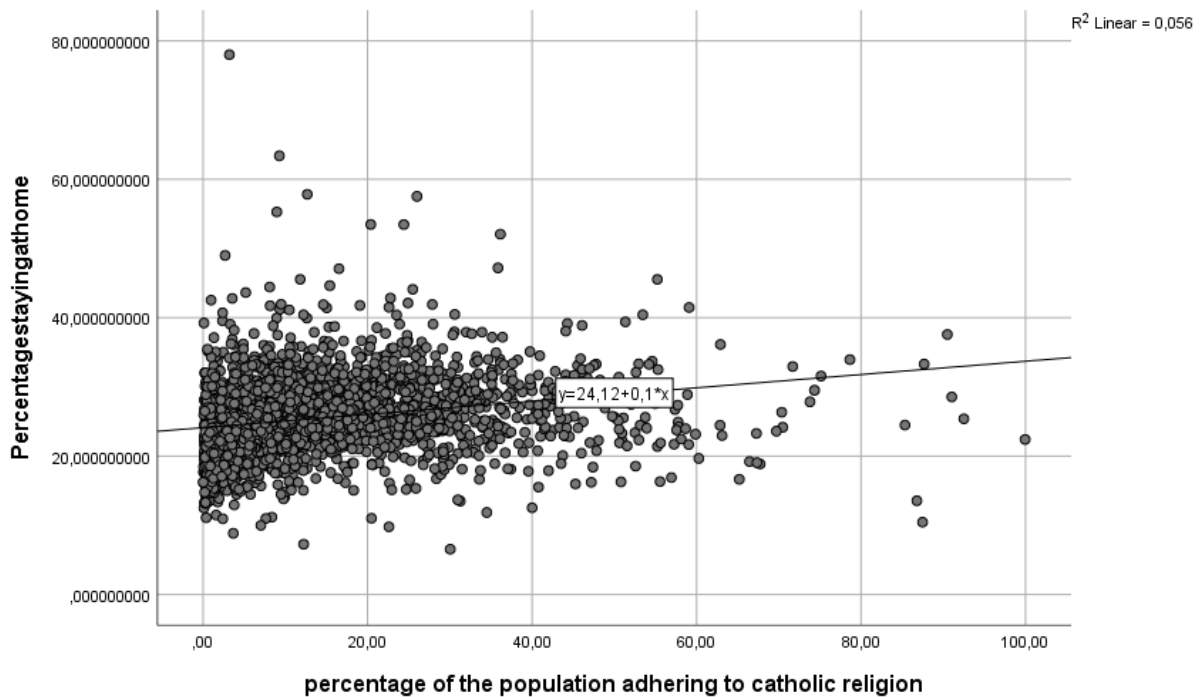
Scatterplot of Evangelical Percentage and Staying at Home on the County Level



N=3123. Sources: County level data on religiousness and Covid-19 policy compliance

Figure 24

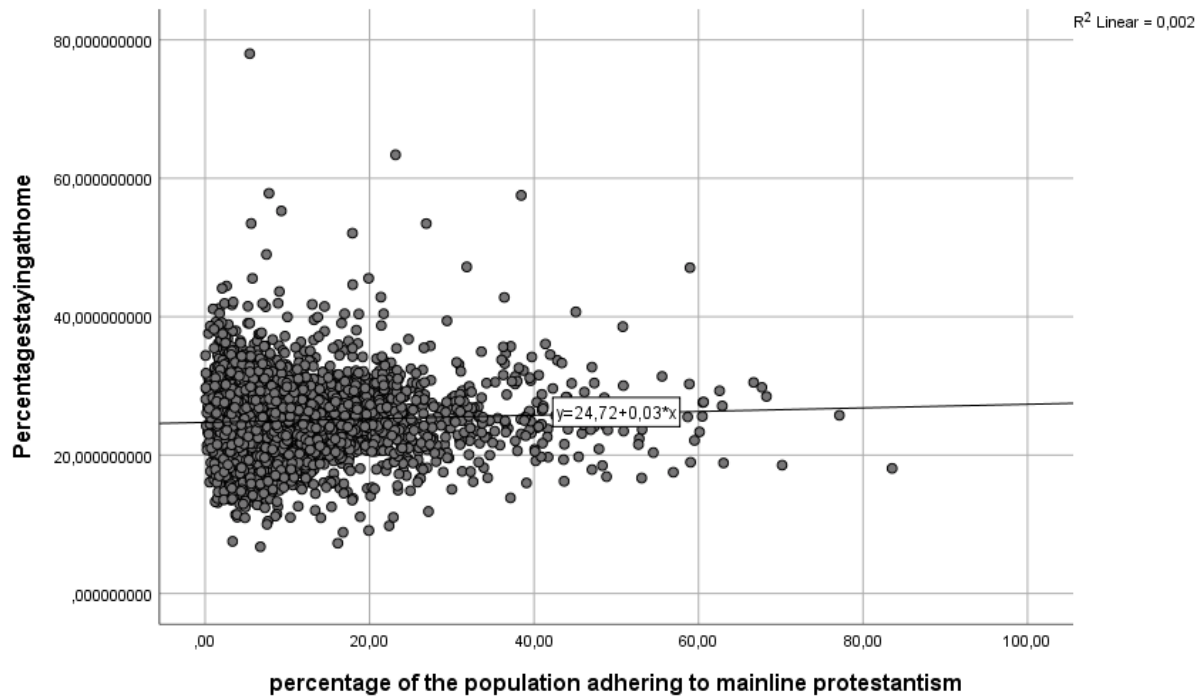
Scatterplot of Catholic Percentage and Staying at Home on the County Level



N=2959. Sources: County level data on religiousness and Covid-19 policy compliance

Figure 25

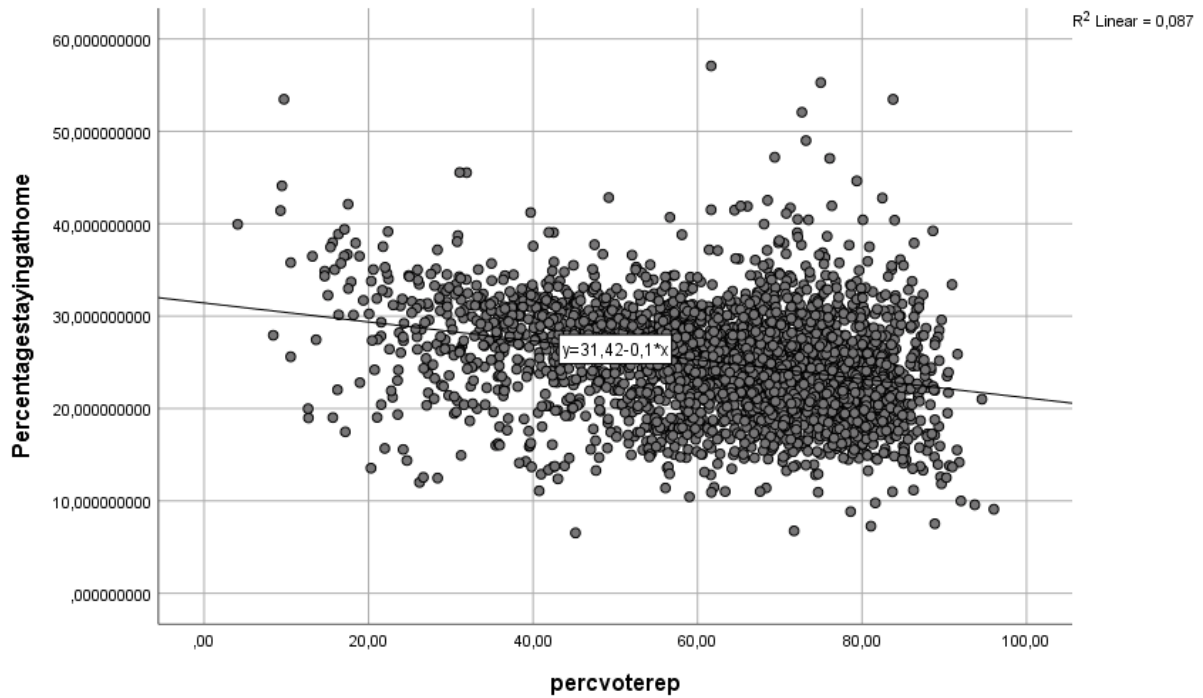
Scatterplot of Mainline Protestant Percentage and Staying at Home on the County Level



N=3114. Sources: County level data on religiousness and Covid-19 policy compliance

Figure 26

Scatterplot of Republican Percentage and Staying at Home on the County Level



N=3137. Sources: County level data on republicanism and Covid-19 policy compliance

Table 9*Regression Results for Evangelicalism and Mobility on the state level*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Evangelical Rates	,036*	,013	,379	,019	,013	,204	,023	,014	,248
Republican				,597*	,206	,400	,588*	,239	,394
Trust Trump High							-,372	,594	-,125
Trust State Government Low							-,208	,346	-,087
Trust Biden Low							,334	,507	,137

*Dependent Variable: Mean Mobility N=50. Sources: State level data on religiousness, trust, conservatism, and Covid-19 policy compliance *p<.05 **p<.01*

Table 10*Regression Results for Mainline Protestantism and Mobility on the state level*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Mainline Protestant Rates	,061*	,024	,340	,032	,024	,178	,34	,026	,192
Republican				,628*	,202	,421	,576*	,254	,386
Trust Trump High							-,086	,587	-,029
Trust State Government Low							-,028	,338	-,012
Trust Biden Low							,228	,503	,093

*Dependent Variable: Mean Mobility N=50. Sources: State level data on religiousness, trust, conservatism, and Covid-19 policy compliance *p<.05 **p<.01*

Table 11

Regression Results for Catholicism and Mobility on the state level

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Catholic Rates	-,039*	,013	-,404	-,020	,014	-,208	-,203	,015	-,235
Republican				,572*	,216	,383	,575*	,248	,385
Trust Trump High							-,030	,588	-,010
Trust State Government Low							-,205	,350	-,086
Trust Biden Low							,051	,503	,021

Dependent Variable: Mean Mobility N=50. Sources: State level data on religiousness, trust, conservatism, and Covid-19 policy compliance
*p<.05 **p<.01

Table 12

Regression Results for Evangelicalism and Staying at Home on the state level

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Evangelical Rates	-,019**	,003	-,719	-,017**	,003	-,659	-,017**	,003	-,664
Republican				-,057	,046	-,139	-,094	,052	-,227
Trust Trump High							,084	,129	,102
Trust State Government Low							-,025	,075	-,037
Trust Biden Low							,070	,110	,103

Dependent Variable: Staying at Home N=50. Sources: State level data on religiousness, trust, conservatism, and Covid-19 policy compliance
*p<.05 **p<.01

Table 13

Regression Results for Mainline Protestantism and Staying at Home on the state level

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Mainline Protestant Rates	-,014*	,007	-.280	-,007	,007	-,135	-,006	,007	-,125
Republican				-,155*	,058	-,375	-,171*	,071	-,414
Trust Trump High							-,089	,164	-,108
Trust State Government Low							-,141	,094	-,213
Trust Biden Low							,190	,141	,281

Dependent Variable: Staying at Home N=50. Sources: State level data on religiousness, trust, conservatism, and Covid-19 policy compliance

**p<.05 **p<.01*

Table 14

Regression Results for Catholicism and Staying at Home on the state level

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Catholic Rates	,013*	,003	,473	,009*	,004	,345	,010*	,004	,363
Republican				-,104	,060	-,251	-,133	,066	-,321
Trust Trump High							-,130	,157	-,159
Trust State Government Low							-,073	,093	-,110
Trust Biden Low							,247	,134	,366

Dependent Variable: Staying at Home N=50. Sources: State level data on religiousness, trust, conservatism, and Covid-19 policy compliance

**p<.05 **p<.01*

Table 15*Regression Results for Evangelicalism and Infrequent Mask Wearing on the county level*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Evangelical Percentage	,002**	,000	,206	9,206E-5	,000	,011
Republican				,004**	,000	,487

*Dependent Variable: Infrequent Mask Wearing N=3123. Sources: County level data on religiousness, conservatism, and Covid-19 policy compliance *p<.05 **p<.01*

Table 16*Regression Results for Mainline Protestantism and Infrequent Mask Wearing on the county level*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Mainline Protestant Percentage	,004**	,000	,333	,003**	,000	,268
Republican				,004**	,000	,458

*Dependent Variable: Infrequent Mask Wearing N=3114. Sources: County level data on religiousness, conservatism, and Covid-19 policy compliance *p<.05 **p<.01*

Table 17*Regression Results for Catholicism and Infrequent Mask Wearing on the county level*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Catholic Percentage	-,001**	,000	,333	-2,563E-5	,000	-,003
Republican				,004**	,000	,494

*Dependent Variable: Infrequent Mask Wearing N=2959. Sources: County level data on religiousness, conservatism, and Covid-19 policy compliance *p<.05 **p<.01*

Table 18*Regression Results for Evangelicalism and Staying at Home on the county level*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Evangelical Percentage	-,119**	,006	-,340	-,090**	,006	-,268
Republican				-,067**	,006	-,193

*Dependent Variable: Staying at Home N=3123. Sources: County level data on religiousness, conservatism, and Covid-19 policy compliance*** $p < .05$ ** $p < .01$* **Table 19***Regression Results for Mainline Protestantism and Staying at Home on the county level*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Mainline Protestant Percentage	,026**	,010	,047	,049**	,009	,092
Republican				-,108**	,006	-,312

*Dependent Variable: Staying at Home N=3114. Sources: County level data on religiousness, conservatism, and Covid-19 policy compliance*** $p < .05$ ** $p < .01$* **Table 20***Regression Results for Catholicism and Staying at Home on the county level*

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Catholic Percentage	,096**	,007	,236	,073**	,007	,188
Republican				-,087**	,006	-,259

*Dependent Variable: Staying at Home N=2959. Sources: County level data on religiousness, conservatism, and Covid-19 policy compliance*** $p < .05$ ** $p < .01$*

Figure 27

Mediation Effect of Conservatism on the State Level

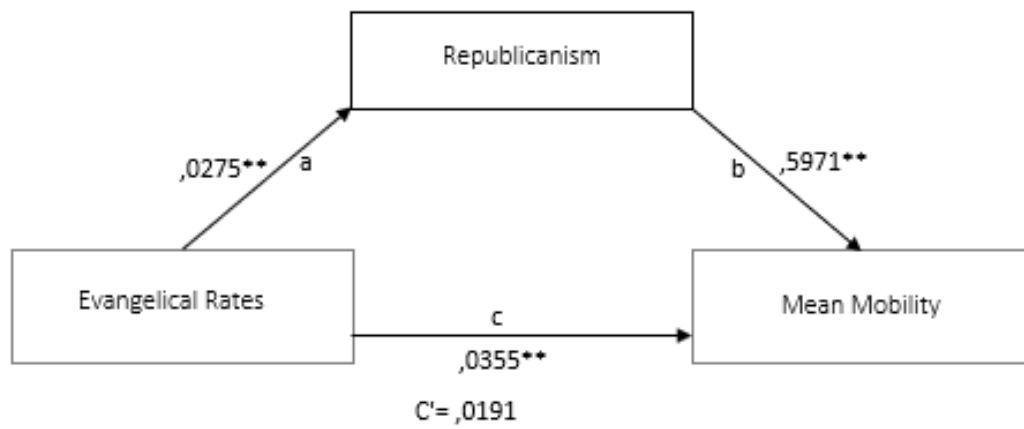


Figure 28

Mediation Effect of Conservatism on the State Level

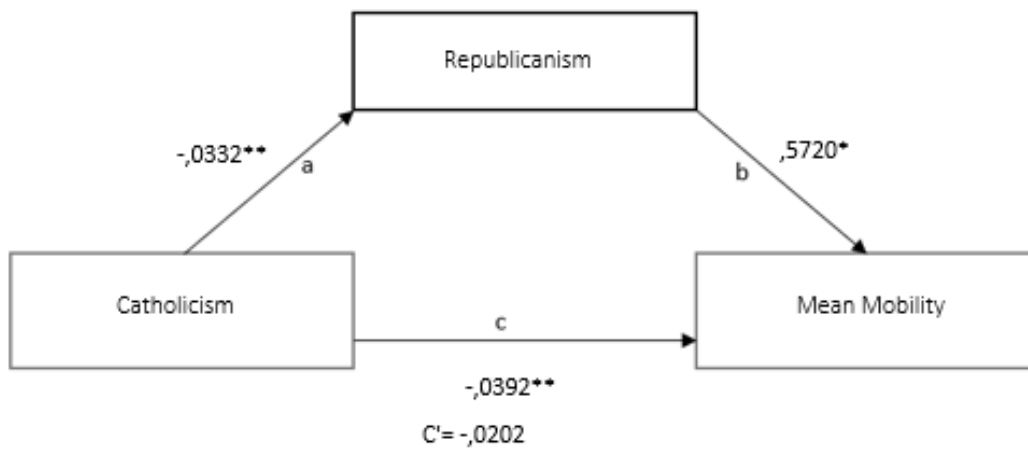


Figure 29

Mediation Effect of Low Trust in the State Government on the State Level

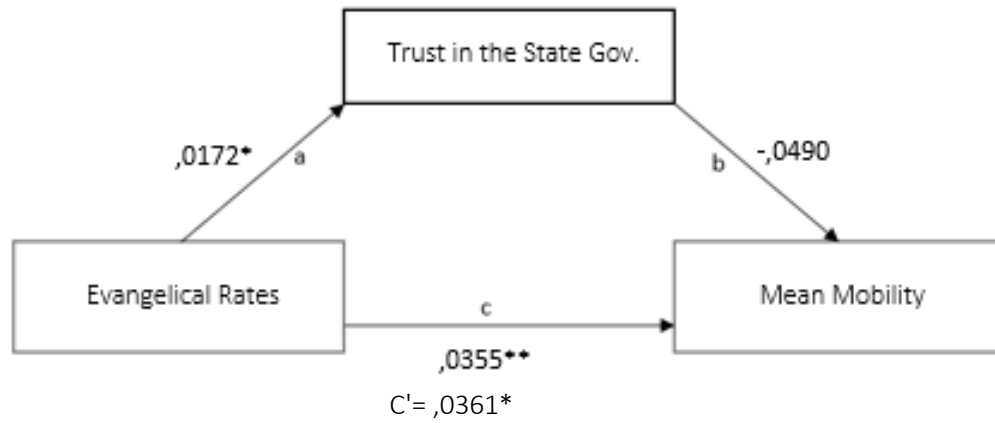


Figure 30

Mediation Effect of Conservatism on the State Level

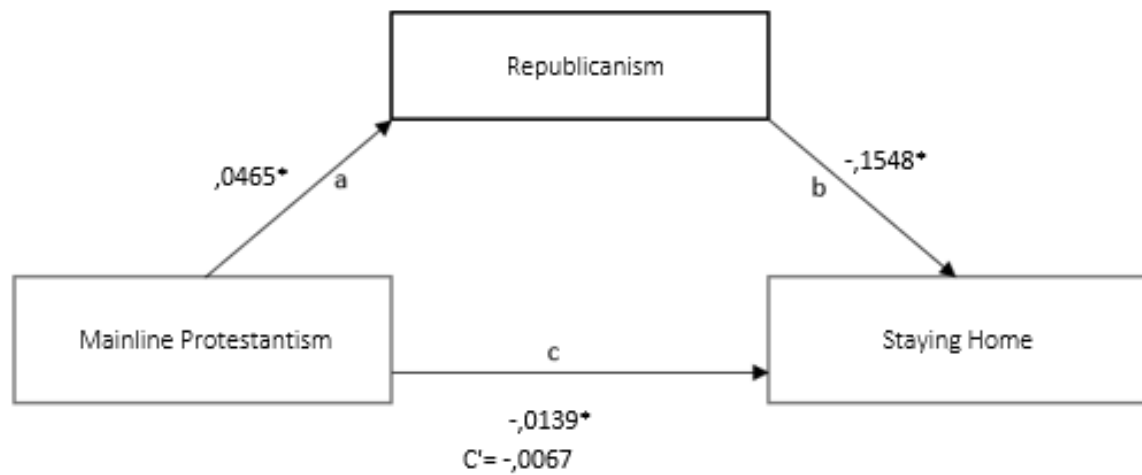


Figure 31

Mediation Effect of Conservatism on the County Level

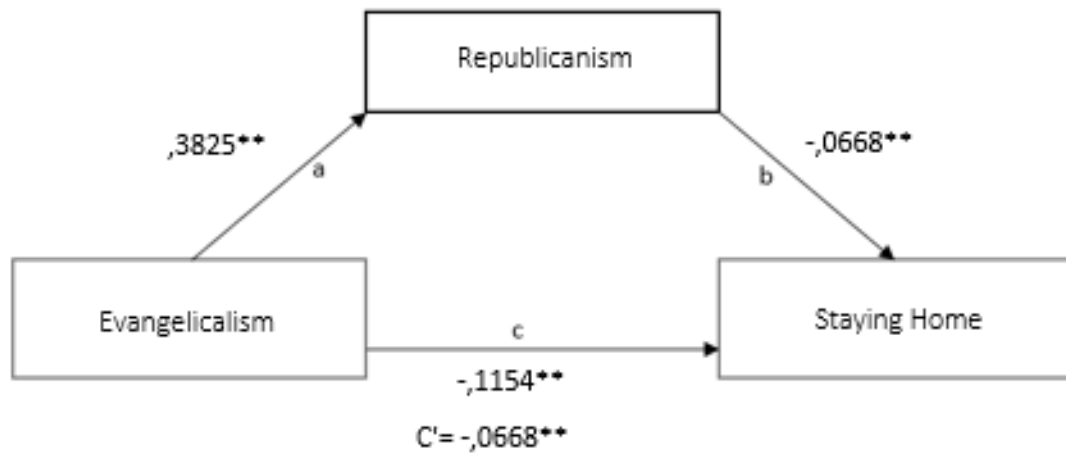


Figure 32

Mediation Effect of Conservatism on the County Level

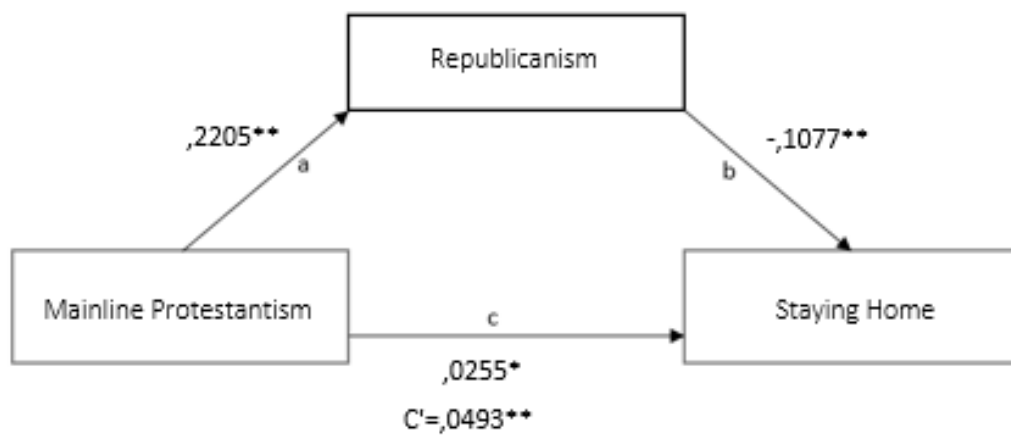


Figure 33

Mediation Effect of Conservatism on the County Level

