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Populism, compliance, and social norm enforcement during the COVID-19 pandemic in five European countries

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Abstract

In order to reduce the spread of COVID-19, citizens have been cooperating with their governments by complying with protective measures for almost two years. However, compliance with these COVID-19 measures can be imposed not only by the state, but also by citizens' own reactions to each other's protective behavior. More specifically, by reacting negatively toward others' transgression of COVID-19 measures, one can enforce social norms. Social norm enforcement can support the general level of compliance and enhance the effectiveness of COVID-19-related measures. In this paper we examine self-reported compliance and social norm enforcement related to COVID-19 measures in five European countries during the first wave of the COVID-19 pandemic. In addition to socio-demographic characteristics, we include politics-related variables, in particular populist attitudes, and measure these in light of a latent variable analysis. We found that populist attitudes—contrary to our expectations—increase compliance with COVID-19 measures, but there was no significant relation between populist attitudes and social norm enforcement. These results can establish future research on how populist attitudes and COVID-19 behaviors interrelate.

Keywords: compliance, social norm enforcement, COVID-19 measures, populist attitudes, structural equation modeling

1 Introduction

The COVID-19 pandemic represents a huge policy challenge to governments around the globe. Part of this challenge is how to convince people about the necessity of policy measures, even if those are uncomfortable (like wearing a mask) or costly (like lockdowns) and solicit their cooperation and compliance. This is of paramount importance, since the effectiveness of public policies depends, among other factors, on people's allegiance to government policies. If people are willing to accept governmental decisions as legitimate and justifiable, this will strengthen their cooperation with authorities and increase their voluntary compliance with regulations and that, obviously, increases the effectiveness of implementation (Levi et al., 2009; Tyler, 2010; Wallner, 2008). Regulations seen as legitimate may become social norms, which, by definition, are enforced by way of social sanctions, instead of the force of the law (Nolan, 2017, p. 148).

This paper focuses on the role of populist attitudes in predicting self-reported compliance and social norm enforcement with COVID-19-related measures.[1] The choice of examining populist attitudes in relation to COVID-19 behaviors is justified by two considerations. First, as Mudde (2004) stated, we live in a populist era: populism both as a general attitudinal predisposition and as a political movement has been growing stronger in the past two decades (Hawkins et al., 2019). Second, populism generally thrives in times of crisis, therefore one could assume that the pandemic would also provide a fertile ground for populist ideas (Bobba & Hubé, 2021). Especially, because populism is, by definition, anti-elitist and prone to cultivate conspiracy thinking—the leading role of medical experts in fighting the pandemic on one hand, and the uncertainties surrounding the origins as well as the possible cures, including vaccination of the disease, on the other, have the potential to spur both kinds of attitudes. If health measures aimed at fighting the pandemic clash with populist sentiments, this could represent a specific policy challenge to deal with.

Not much is known about the influence of politics-related variables, including populist attitudes on why people comply with COVID-19 related government measures. Because people tend to adjust their opinions about public issues to the preferred party's issue positions (see, e.g., Druckman et al., 2015), we may assume that compliance decisions are not independent of people's political attitudes and preferences. Previous studies about COVID-19 and political attitudes focused on one special country case (e.g. Nivette et al., 2021; Asnakew et al., 2020, Schmelz, 2021) maybe two (Kopasz et al., 2025), and so there has been a lack of comparative analysis in this field. One of the few exceptions is the study by Abadi and colleagues (2021), which examined specifically the role of populism and various emotions in complying with pandemic-related measures. They found that anxiety related to COVID-19 positively correlates with compliance with COVID-19-related measures, and these are positively predicted by populist attitudes.

We present the analysis of a dataset collected in five European countries (Abadi et al., 2021) at the outset of the COVID-19 pandemic, also including data of one more country (Hungary). However, our research focus is different than that of Abadi and his colleagues. Namely, while Abadi et al. (2021) focused on the role of emotions, we put a special emphasis on populist attitudes in predicting compliance with COVID-19 measures. The models of Abadi et al. (2021) demonstrated that emotions like anxiety and anger predict compliance behavior, but they showed no effect of the populist attitudes. The authors suggest that this is explained by the fact that people with populist attitudes are more anxious—that is, the effect of populism may be mediated by the emotions. We use different models with an emphasis on political attitudes and examine the possible role of populist attitudes in that context. Also, instead of using hierarchical regression analysis as Abadi et al. (2021) did, we conduct SEM analysis (see below and the methodology section), on a partly different sample than Abadi et al. (2021), adding one more country, namely Hungary, to the pool, as the most polarized in COVID-19 narratives and with the least collaborative government among the investigated countries (Kopasz et al., 2025). Moreover, the scrutiny of social norm enforcement in line with populism is also novel in our research.

[1] Note that we use survey data. Although the questionnaire asked the respondents on their actual behavior, we cannot know whether the answers reflect reality. Therefore, we interpret those answers as self-reported compliance and social norm enforcement.

Even if compliance is high in a country, there will always be parts of the population who are reluctant to comply with the regulations and this may undermine the effectiveness of health measures. We examine whether individuals with strong populist attitudes are more likely to publicly enforce social norms and to comply with pandemic-related measures in order to protect themselves. The role of social norm enforcement has not been the focus of pandemic-related policy studies to date, nor has it been examined in light of populist attitudes of individuals.

2 Populism, compliance, social norm enforcement, and the pandemic

Legitimacy and justifiability of policies have both procedural and substantive conditions (Wallner, 2008). The former refers to the procedures of policy formulation, decision making and implementation in terms of debates, participation, and transparency; and the extent to which policy making is in conformity with the norms of procedural fairness (Tyler, 2010). On the other hand, "(i)n substantive terms, policy content should align with the dominant attitudes of the affected stakeholders and, ideally, the broader public" (Wallner, 2008, p. 422). In this light, understanding compliance with COVID-19 related government restriction requires the analysis of how specific socio-political attitudes predict the allegiance to those measures. Knowledge on self-reported compliance and their roots may help governments to better target their policies and communication activities.

Studies on compliance with COVID-19 measures have focused mostly on the role of socio-demographic variables. Research has shown that women, older and more educated people, living in urban areas, are more likely to comply with COVID-19 measures (Abadi et al., 2021; Buyukkececi, 2021; Clark et al., 2020, Qeadan et al., 2020). However, related studies are inconclusive. For instance, both Barceló and Sheen (2020) as well as Nivette et al., (2021) found a negative correlation between education and compliance, suggesting that higher education means less compliance. In addition, COVID-19 related factors also seem to be significant predictors. Citizens who had been infected with COVID-19 or who were concerned about becoming infected were also more willing to comply with restriction measures (Barceló & Sheen, 2020; Harper et al., 2020; Qeadan et al., 2020; Raude et al., 2020).

Populism is defined in multiple ways and from different angles, but we employ the ideational approach advocated by Cas Mudde: populism is a kind of ideology, but a "thin" one, lacking a substantive ideological core, which makes it prone to manifest itself at both the left and the right of the political spectrum (Mudde, 2004). As an ideological construct, it builds on the ideas of anti-elitism, people-centrism, and a Manichaean outlook in which the corrupt elite (and its allies) is antagonistically contrasted to the "good" people. The ideational approach constitutes a dominant paradigm in populism research (see Chryssogelos et al. 2024; Hawkins & Rowira Kaltwasser, 2019). One of its strengths is that it is easily applicable to individual attitudes: researchers have developed scales measuring those attitudes, which reflect anti-elitism, people centrism and Manichaean outlook. These scales have been empirically validated throughout a series of analyses proving their distinctiveness from other, related measures of political attitudes (see Akkermann et al., 2014; Castanho Silva et al., 2020; Geurkink et al., 2020; Hawkins et al., 2019).

A plausible assumption is that, first, the pandemic as a major crisis has spurred populist discourses and activated populist sentiments, and second, that these attitudes acted against strict pandemic-related measures. First, we assume that because of the uncertainty on the effectiveness of the measures and their proper level, measures may seem too strict, e.g., they may have negative socio-economic consequences, or too lax, because they cannot stop the pandemic. Either way, public discontent may rise, and political elites are an easy target of criticism. Since anti-elitism is the essence of populism, we can expect both people with populist attitudes and populist political actors to criticize the government. Populist political actors have indeed tried to capitalize on the COVID-19 crisis and criticized their governments either for being too permissive or implementing unnecessarily strict measures (Bobba & Hubé 2021). Although there are examples for the former, the typical populist reaction to the pandemic-related measures was the latter: populist actors questioned both the risks of the pandemic and the necessity of strict measures (Brubaker, 2021). Populist governments, on the other hand, downplayed the severity of the pandemic and implemented relatively lax measures compared to other countries (Bayerlein et al., 2021, Kopasz et al., 2025). The explanation might be that populist governments posited international experts and the WHO as "elites" to be criticized on behalf of the "people" (Kopasz et al., 2025). Therefore, we expect that people with populist attitudes who probably sympathize with their populist government, also then downplay the severity of the risk and the necessity of any anti-pandemic measures. Second, COVID-19 has unclear origins and speculations that have circulated in the media, including conspiracy theories about the Chinese government and its secret military program, or, inversely, about the US government releasing the virus with the aim of incriminating China (Bolsen et al., 2020). The fast development of vaccines further evoked fears and uncertainty and gave a new impetus to anti-vaccine conspiracy theories and movements. Eberl and his colleagues (2020) found a statistically significant positive association between faith in COVID-19 conspiracy theories and populist attitudes, which is, again, justified by the anti-elitist stance of populism. Also, one in three people say they have seen or heard messages discouraging the public from getting a COVID-19 vaccine.[2] These messages certainly influence the behavior of people and contribute to the uncertainties and hesitations concerning vaccines (Stecula & Pickup, 2021). Therefore, whereas Michel (2020) found that populist voters, while being more critical and distrustful toward the government, show similar levels of compliance toward health measures to the rest of the population, we argue that there is a strong theoretical case to expect populist sentiments to predict weaker compliance.

For the contextualization of our research cases, we would like to briefly highlight some important and relevant characteristics of the countries under investigations, as well as patterns regarding the political position of populist parties (whether they are in government or not), and how they could influence the current political and media discourse on the coronavirus and the pandemic. Let us highlight that even though our research design does not strictly follow a Most Different System Design (MDSD), it uses a diverse case selection strategy to capture variation on theoretically relevant dimensions, namely, populist parties and attitudes, the number of people infected with COVID-19 and related government regulations.

[2] Ipsos (2021) Attitudes to COVID-19 vaccines. Available at https://www.ipsos.com/en/attitudes-covid-19-vaccines (accessed 30 September 2021)

First of all, the country cases (Germany, Spain, the Netherlands, the United Kingdom, and Hungary) represent different socio-economic compositions, political cultures, as well as different political measures and communication strategies of governments regarding the coronavirus pandemic, different numbers in infections and deaths, and therefore appropriately diverse cases for the current comparative analysis (i.e., whether populist attitudes in general lead to more compliance with COVID-19 rules and related social norm enforcement or not). The countries also differ in terms of the extent of populism on the macro level and whether populist parties are in government or in opposition. The position of populist actors profoundly shapes both the narrative around COVID-19 and the public's response to regulations. When in government, populist leaders can shape crisis communication, downplay expert advice, or use the pandemic to consolidate authority. When in opposition, populist rhetoric may focus on delegitimizing government measures, promoting distrust, or framing regulations as elite overreach. Including both scenarios allows the study to differentiate between top-down and bottom-up dynamics of populism. While the five countries differ in political systems, media environments, and pandemic trajectories, they are comparable in that each has experienced significant populist mobilization.

While in Hungary and in the United Kingdom populist parties were in government at the time of the research (and the Hungarian government is considered as one of the most populist political forces in Europe, which was actually not hit politically by the COVID-19 crisis (Ádám & Csaba, 2022), in Germany, Spain and the Netherlands populist political groups had parliamentary representation but did not govern in the country. As Bobba and Hubé (2021) highlight, the impact of COVID-19 was also different in these countries; while the number of reported deaths was especially high in Spain and in the UK, Germany and Hungary belong to the "medium" category in this regard (however, in Hungary, vaccination rates were also way below the EU average (Ádám & Hajnal, 2022). While COVID-19 related rules were less strict in the Netherlands or the UK, Hungarian and German governments were more coercive about social distancing or lockdowns. Populist parties in opposition positions mostly blamed the government measures for being too harsh and restrictive for citizens, which could have implied less compliance and enforcement of their electorate, too. Furthermore, COVID-19 related conspiracy theories were often articulated and integrated to the related discourse by populist parties, like the UKIP or the AfD.

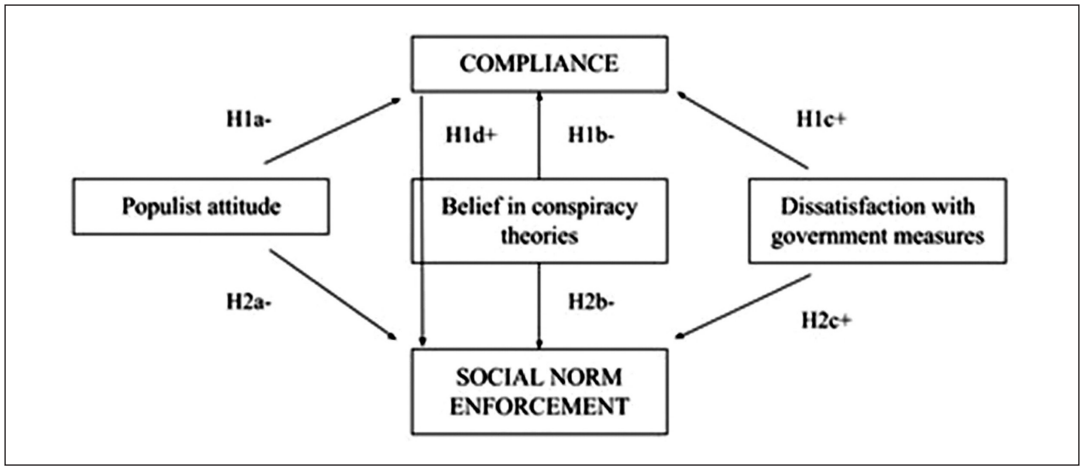
As for the other dependent variable of our analysis, while compliance have been investigated in several social science research about the coronavirus, less is known about the enforcement of COVID-19-related measures as social norms. Social norms might be crucial in keeping COVID-19 measures (Martínez et al., 2021), and we can easily recall social situations when citizens, more or less kindly and politely, reminded each other of keeping to various expected social norms.

Consequently, the question is what facilitates social norm enforcement with regard to COVID-19 rules? Only a handful of studies raised this question and none of them focused on political attitudes. Schunk and Wagner (2021) found that women agree less than men to punish norm violation, while they did not find significant differences between younger and older people. Clark and her colleagues (2020) clearly pointed out in their comparative study that people who enforce social norms are more likely to comply with them first. People's sanctioning behavior was shown to be contingent on the beliefs about the prevalence of norm violations in the population as well: we can expect people to enforce

social norms more eagerly if non-compliance is a relatively rare phenomenon (Traxler & Winter, 2012). Finally, although compliance with COVID-19 related rules shows a certain relation to government measures and the face-to-face enforcement of these rules regard rather as a question of social relations and psychology, citizens' willingness to enforce norms is also dependent on the perceived effectiveness of legal sanctions. Namely, the legal and the social enforcement systems are complementary: social enforcement is activated if legal enforcement is seen to be weak (Kube & Traxler, 2011).

Given the positive association of social norm enforcement to compliance as well as its trade-off with legal enforcement, we hypothesize that populist attitude predicts weak social norm enforcement, namely, people with populist attitude will be less willing to impose COVID-19-related social norms on other citizens. First, because, as shown above, we assume that populist sentiments are associated with weak self-reported compliance to government-set rules; and second, because we assume that populist sentiments predict a distrust toward governmental regulations which, therefore, should not be enforced by social action either.

To investigate our research questions, we apply Structural Equation Modeling (SEM) and construct latent variables to capture the main endogenous and exogenous variables of research interest. Figure 1 illustrates the latent variables and related expectations: negative and positive signs refer to the assumed relationships between latent variables. Accordingly, we expect weaker compliance along with stronger populist attitudes (H1a) and beliefs in conspiracy theories (H1b). We also assume that people who think that their government does not perform well in terms of managing the epidemic will be more likely to comply with COVID-related rules to protect themselves, so we expect stronger compliance in the case of dissatisfaction with the stringency of anti-COVID government measures (H1c). We expect that populist attitudes (H2a) and belief in conspiracy theories (H2b) decrease the likelihood of social norm enforcement, whereas dissatisfaction with the stringency of government policies will increase it (H2c). Finally, we expect that stronger self-reported compliance increase the willingness to enforce the COVID-related norms (H1d).



1. Figure Exogenous and endogenous variables of Structural Equation Models and the hypotheses of the research.

3 Data and Methods

As introduced previously, we conducted online surveys in five European countries: Germany, Spain, the Netherlands, the United Kingdom, and Hungary. The N=2539 sample (that included approximately 500 individuals per country) is representative for age, gender, and geographical region according to the current UN-census data, and it was administered with a global research platform, Cint.[3] This is a new analysis of this dataset, extended with the Hungarian case, following the research of Abadi and his colleagues (2021). However, this new dataset required the creation of some new scales to ensure high coherence and measurement invariance across the five countries (see Appendix 1).

The data was collected during the first wave of the pandemic, which has several implications on the expectations and interpretations of the results. This was the time of the initial shock after the outbreak and worldwide spread of the coronavirus. Scientists and citizens had limited information about the nature of the coronavirus, restrictive government measures changed rapidly and often inconsistently. Still, we can assume that people with populist attitudes reacted to COVID-19 related measures differently than individuals who do not identify with these values from the beginning of the pandemic, because of the highly politicized context of these measures in citizens' perceptions.

For answering our research questions, we applied Structural Equation Modeling (SEM) and included latent variables both as endogenous and exogenous variables.[4] The use of SEM is justified by the two endogenous variables (i.e. self-reported compliance and social norm enforcement). Latent variables enable researchers to construct complex attitude variables, whereas the SEM method provides a tool for detecting covariation between these variables. In order to differentiate between general interrelations and to get an overview across countries as well, we interpret two SEM models: one that is valid for the whole sample, and another one that investigates the results grouped by countries.

Our models include two endogenous variables, one referring to the *self-reported compliance* with COVID-19 regulations, the other to the *self-reported enforcement of social distancing rules*. For the variables measuring self-reported compliance, respondents had to indicate how often they take various COVID-19-related measures. The latent variable referred to the self-reported enforcement measures how respondents would react if they saw someone not keeping COVID-19 regulations on social distancing (e.g., how angry they would be).

As exogenous variables, three latent variables, socio-demographic characteristics and COVID-19 infection were distinguished in the models. The exogenous latent variables were the following (for the exact wording of survey questions see Appendix 1): (1) The operationalization of populist attitudes follows the well-established findings of Akkerman, Mudde and Zaslove (2014), and includes indicators of people-centrism, anti-elitism, and the sharp divide between ingroup and outgroups. (2) Belief in conspiracy theories indicates the agreement with secret organizations, secret activities and monitoring of citizens.

[3] cint.com

[4] For the analysis we used the lavaan and semTools packages in R (Rosseel, 2012).

(3) The evaluation of the government's performance; whether the government reacted fast enough to the challenges, whether they were satisfied with related government measures, and how much they trusted the way the government handled the coronavirus crisis. Dissatisfaction with government measures is captured in terms of thinking that the government did not react fast/strictly enough to the coronavirus, and not that the measures would have gone too far. Since populist attitudes might vary in terms of ideological positions, we included a variable that records the position on the political left-right scale of individuals. The distribution of the variable fits the traditional assumptions in political science, that many people (in this case 37 percent of respondents) place themselves in the middle of the scale. Moreover, variables were included that measure the primary relation to COVID-19, namely whether the respondent was infected with the coronavirus or knows anyone who was infected, and how much they are concerned about the consequences of the coronavirus. Last, we included relevant socio-demographic variables, too, referring to the gender, age, level of education, and subjective economic position of respondents. To explore possible differences between countries in our models, we ran multigroup SEM models, which present results by countries.

For latent variables, we use the same scales as Abadi et al., (2021) except for the compliance scale. Although our latent variable for compliance includes less variables, the comparison of the two factors with an ANOVA test showed that our parsimonious scale counts as a significantly better solution to measuring compliance with the COVID-19 restrictions in the countries of the analysis. As highlighted previously, this calculation was necessary because of the inclusion of a fifth country, Hungary in the sample.

4 Results

The results of the SEM analysis that is valid for the whole sample are presented in Table 1, the multi-group SEM models are presented in Table 2. The fit indexes of the models are beyond the critical cutoff criteria (Schreiber et al., 2006), with CFI=0.999, RMSEA=0.075 (with the 90% confidence interval [0.073-0.077], and SRMR=0.080 for the first, and CFI=0.644, RMSEA=0.081 (with the 90% confidence interval [0.079-0.082] and SRMR=0.096 for the second model). Since fit indexes are appropriate, we accepted the models that test every theoretical expectation of our analysis.

Table 1 Regression coefficients of Structural Equation Models Regression coefficients of Structural Equation Models

	Estimate (Std. Err.)
Compliance ~	
Female	0.257*** (0.037)
Age	0.118*** (0.015)
Subjective wealth	0.018 (0.010)
Left-right	−0.036*** (0.008)
Education	0.014 (0.012)
Infected	−0.556*** (0.095)
Knows_infected	0.111** (0.043)
Populism	0.527*** (0.082)
Conspiracy	−0.153*** (0.046)
CovidRisk	0.147*** (0.021)
GovDissat	−0.072*** (0.018)
Enforcement ~	
Female	−0.230*** (0.054)
Age	−0.045* (0.021)
Subjective wealth	0.096*** (0.015)
Left-right	0.027* (0.012)
Education	−0.010 (0.017)
Infected	0.624*** (0.139)
Knows_infected	0.131* (0.063)
Populism	0.076 (0.116)
Conspiracy	−0.020 (0.066)
CovidRisk	0.093*** (0.030)
GovDissat	0.136*** (0.026)
Compliance	0.064 (0.180)

***p<0.001, **0.001<p<0.01, *0.01<p<0.05

Table 2 Regression coefficients of Structural Equation Models by countries

	Germany	Spain	Netherlands	UK	Hungary
	Estimation (Std. Err.)	**Estimation (Std. Err.)**	**Estimation (Std. Err.)**	**Estimation (Std. Err.)**	**Estimation (Std. Err.)**
Compliance ~					
Female	0.293*** (0.079)	0.128* (0.054)	0.074 (0.067)	0.168* (0.072)	0.563*** (0.106)
Age	0.145*** (0.032)	0.038 (0.022)	0.122*** (0.029)	0.028 (0.026)	0.178*** (0.040)
Subjective wealth	0.057*** (0.022)	−0.032 (0.018)	0.008 (0.019)	−0.001 (0.018)	0.060* (0.030)
Left-right	−0.049** (0.020)	−0.022* (0.011)	−0.026 (0.016)	−0.044* (0.018)	0.018 (0.024)
Education	−0.009 (0.030)	0.044* (0.019)	−0.045 (0.024)	−0.022 (0.022)	0.064* (0.032)
Infected	−0.568** (0.205)	−0.035 (0.146)	−0.581*** (0.161)	−0.599*** (0.176)	0.330 (0.405)
Knows_infected	0.041 (0.116)	0.005 (0.053)	0.254*** (0.076)	0.117 (0.086)	−0.194 (0.210)
Populism	0.744*** (0.193)	0.196 (0.133)	0.470 (0.250)	0.486*** (0.123)	0.284*** (0.067)
Conspiracy	−0.263** (0.094)	0.009 (0.079)	−0.039 (0.087)	−0.131 (0.071)	−0.084 (0.076)
CovidRisk	0.057 (0.074)	0.040 (0.050)	0.086 (0.041)	0.220*** (0.064)	0.681 (0.440)
GovDissat	−0.099 (0.049)	−0.016 (0.026)	−0.100** (0.040)	−0.046 (0.034)	0.023 (0.041)
Enforcement ~					
Female	−0.202* (0.102)	−0.421** (0.160)	−0.165* (0.066)	−0.389*** (0.148)	−0.015 (0.127)
Age	−0.066 (0.041)	0.013 (0.066)	−0.010 (0.024)	−0.113* (0.054)	0.007 (0.047)
Subjective wealth	0.123*** (0.030)	0.047 (0.052)	0.024 (0.018)	0.179*** (0.038)	0.102*** (0.036)
Left-right	0.055* (0.026)	0.003 (0.032)	0.020 (0.014)	0.035 (0.037)	0.091*** (0.028)
Education	−0.055 (0.039)	0.027 (0.056)	0.049* (0.023)	−0.087 (0.045)	−0.054 (0.037)
Infected	0.571* (0.265)	0.866* (0.442)	0.204 (0.140)	0.687 (0.362)	0.920 (0.475)
Knows_infected	0.200 (0.149)	0.167 (0.159)	0.142* (0.068)	0.269 (0.176)	0.173 (0.245)
Populism	0.153 (0.223)	0.064 (0.395)	−0.073 (0.212)	0.565* (0.254)	−0.129 (0.081)
Conspiracy	−0.140 (0.119)	−0.084 (0.237)	0.099 (0.080)	−0.190 (0.146)	−0.001 (0.088)
CovidRisk	0.101 (0.095)	−0.074 (0.150)	−0.009 (0.037)	−0.062 (0.122)	−0.025 (0.332)
GovDissat	0.245*** (0.067)	0.096 (0.078)	0.114*** (0.039)	0.159* (0.069)	0.182*** (0.049)
Compliance	0.220 (0.078)	0.065 (0.194)	−0.237*** (0.076)	−0.144 (0.192)	0.225*** (0.080)

***p<0.001, **0.001<p<0.01, *0.01<p<0.05

Several of our expectations are corroborated by the analysis, though we have some unexpected results, especially related to the hypotheses regarding the populist attitude of individuals. In contrast to our expectations (H1a), the general effect of populist attitudes on compliance is positive. Country data show that the positive effect is present on the German, British and Hungarian samples. The direction of the effect is positive in Spain and the Netherlands as well, without, however, statistical significance. An explanation could be that since we controlled on conspiracy thinking which is, by definition, an anti-elitist attitude, the positive effect of the populist scale is provided by the people-centeredness items. However, when we ran the models without the conspiracy item, the effects remained the same. Country-specific circumstances may have played some role, as during the survey populists were in power both in Hungary and the UK so the positive attitudes of both Hungarian and British people high on the populist scale to compliance could be a sign of allegiance that they gave to the government they supported. Still, we tend to believe the data: that, contrary to our expectation, if populist attitudes had any effect on compliance, it was positive and country-specific circumstances probably played only minor role. Brubaker (2021) seems to be right in arguing that the pandemic posed a challenge to populism and therefore it could not generate a wide-spread, coherent populist response. In many countries, for instance, in France or the Netherlands, especially at the beginning of the pandemic, populist politicians actually criticized their governments for not being strict enough and not taking experts' warning seriously enough (Boda, 2021). Apparently, the pandemic created a 'rally around the flag' effect rather than spurring anti-elitist attitudes (Schraff, 2020).

Interestingly, there is no effect of populist attitudes on norm enforcement either (H2a). Among the countries populist attitudes influenced the enforcement of COVID-19 rules only in the United Kingdom and the effect is, again, contrary to our expectations, positive. There are no significant statistical results in the other four countries and even the direction of the effect shows variation: it is positive in Germany and Spain, while being negative in Hungary and the Netherlands. We struggle with the interpretation of these findings, as it is difficult to point to a clear pattern behind them. For instance, while it may make sense that in Hungary where the government consists of populist parties, people with similar attitudes support compliance and do not support social norm enforcement (that being the job of the government), the UK data do not reflect the same pattern. Because of the lack of a better explanation, we refer to Brubaker's (2021) ideas on how the pandemic created a certain kind of confusion and incoherence among populists due to the very nature of the crisis. Corroborating our hypothesis (H1b), people who tend to believe in conspiracy theories are less likely to comply with COVID-19-related measures in Germany, while the variable is not significant in the other investigated countries. Contrary to our expectations, respondents who are more dissatisfied with the way their government manages the COVID-19 crisis are less likely to comply in general (H1c), but on the country level this interrelation remains significant in case of the Netherlands only. Those who know infected people and who are concerned about the consequences of the coronavirus express stronger compliance in the Netherlands only. Also interesting is that people having been infected with COVID-19 are less likely to comply in Germany, the Netherlands and the UK – possibly because they considered themselves immunized against the disease.

Self-reported enforcement attitudes are stronger for those who were infected in Germany and Spain or those who know infected people in the Netherlands. Dissatisfaction with the stringency of government measures is associated with stronger social norm enforcement in all countries except for Spain, too (H2c). However, willingness to comply with COVID-related measures (H1d) and belief in conspiracy theories (H2b) have no statistically significant effect on social norm enforcement.

Right-wing people seem to comply less in general (and in particular in Germany, Spain and the UK), but to enforce COVID-19 related rules more (significant effects found in Spain and Hungary among the country cases). The coefficients of most socio-demographic exogenous variables show the expected results: women, and older people are more likely to comply; men and wealthier people are more likely to enforce COVID-19 rules. Interestingly, higher educated people comply more with COVID-19 rules, but the level of education does not interrelate with their self-reported social norm enforcement. These results tally with the contradictory findings of previous research (see Qeadan et al., 2020; Nivette et al., 2021).

5 Discussion and conclusion

Our study demonstrates that politics-related attitudes in general, and populist attitudes in particular, influence people's self-reported compliance with COVID-related measures as well as the enforcement of those measures through social pressures. People on the left are more likely to comply with COVID-related measures, while those on the right are more likely to voluntarily enforce them, which is in line with the theoretical expectations of the left relying more on governmental action and the right on civic duty. Similarly, it is hardly surprising that women have stronger compliant attitudes while men excel in voluntary enforcement of social norms. Women are generally more compliant with norms (Torgler & Schneider, 2007), while enforcement behavior necessitates a certain level of assertiveness, or even arrogance, which is more typical for men. Consistent with previous studies is the finding that belief in conspiracy theories decreases the likelihood of compliant behavior. However, it has no effect on enforcement attitudes and this finding is consistent across countries. We believe this is a surprising finding, as people embracing conspiracy theories generally downplayed the severity of the pandemic, so one would expect them to be less keen on voluntarily enforcing COVID-related measures, but apparently this is not the case. This puzzle raises further questions concerning the relationship between compliant and norm enforcing behavior: while we expected a strong statistical association between the two variables, apparently, this is not the case: the other variables have a much stronger effect on enforcement attitudes. Dissatisfaction with the stringency of government measures predicts stronger enforcement attitudes which is in line with our expectations: social norm enforcement is a substitute for governmental action. Dissatisfaction with government measures decreases the likelihood of compliance behavior although the effect size is very small and looking at the country cases the effect is significant only in the Netherlands.

More specifically, the analysis focused on populist attitudes because, first, populism is a widespread political and social phenomenon nowadays, and second, the pandemic allegedly fueled populist sentiments. We assumed that populism would have a negative effect on both self-reported compliance and social norm enforcement. Data from the five-country online survey showed that populist sentiments have a positive effect on self-reported compliance, and they are not interrelated with social norm enforcement in relation with COVID-19 measures. These findings are especially surprising because country-specific circumstances seem to play a rather minor role in them. While populist parties were in government in some of the countries in our sample, the effect of populist attitudes on compliance is generally positive, while on enforcement it is practically non-existent (a weak positive association was found only in UK).

Although populist sentiments are generally associated with citizens' dissatisfaction and critical attitudes toward the government, our results suggest that under certain circumstances they are not incompatible with a stronger willingness to comply with measures also propagated by the government. Apparently, the pandemic created those circumstances. We assume that the nature of the crisis, being an external, quasi-natural phenomenon, tempered anti-elitist sentiments and strengthened the feeling of connectedness between the people and the elite through the 'rally-around-the-flag' phenomenon. It is a question for further research to what extent can these findings be generalized to other types of crises—for instance, ones created by the populist governments, like the economic turmoil triggered by the drastic tariff-raising policies of Donald Trump. Moreover, the people-centrism element of the populist scale might provide a possible explanation for these results. Individuals with populist attitudes believe in the superiority of the people over the elites, and the concern for the public well-being might have encouraged them to comply with COVID-19 related rules, despite the high level of skepticism in terms of the political elites. However, further research is needed to clarify the conditions under which populist sentiments strengthen self-reported compliance—by examining other policy areas or crisis situations for example, where immediate and strict government rules are introduced and enforced. The fact that our survey was conducted in the first phase of the pandemic may also have had an effect on the results. Further research, maybe in form of a meta-analysis, should compare survey data not only from different countries, but from different time periods as well. Such research could shed light on the generalizability of our findings.

Our models show that while populist sentiments predict stronger compliance, they have no effect on the willingness to enforce the very same norms, although we expected a negative relationship between these two variables. If we consider social norm enforcement as a form of collective action, this finding is consistent with the results of Zaslove and his colleagues, who also showed no relationship between populist attitudes and political protest or vote (2021). Apparently, even if people with populist attitudes are critical toward the political elites, this does not lead to being more active publicly. These findings are certainly worth further investigations as they shed light on the possible behavioral consequences of populist attitudes.

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Appendix

Appendix 1 The scales that latent variables include in the analysis

1. Compliance scale

What measures do you take yourself? (1 – never … 7 – always)

1.1. Hand washing for 20 seconds more than 5 times a day.

1.2. Staying home when you are sick or when you have a cold.

1.3. Keeping 1.5 meters distance when you are outside your home.

2. Social norm enforcement scale

When you see people, who disobey the social distancing rules during the current Coronavirus crisis, how would you react toward such people? (1 – never … 7 – always)

2.1. I would confront them with the rules.

2.2. I would yell at them.

2.3. I would report this to the police.

3. Populist attitude scale *(1 – strongly disagree … 7 – strongly agree)*

3.1. Politicians should always listen closely to the problems of the people.

3.2. Politicians have to spend time among ordinary people to do a good job

3.3. The will of the people should be the highest principle of a country's politics.

3.4. Government officials use their power to improve the quality of peoples' lives.

3.5. You can tell if a person is good or bad if you know their political views.

3.6. People whose political views are different than mine are misguided.

3.7. The political and economic elites have failed to protect our cultural identity.

3.8. People who are born in our country should be given priority over immigrants in the employment and housing market.

3.9. People who have immigrated to our country should adjust to our habits, values and traditions here and give up their own culture.

4. Dissatisfaction with COVID-19-related government measures

(1 – strongly disagree … 7 – strongly agree)

4.1. I think that our government can be blamed for not reacting fast enough to the outbreak of the Coronavirus.

4.2. I am angry at our government for not having taken more far reaching measures to contain the Coronavirus.

4.3. I think the measures taken by the government to drastically reduce social contact are inadequate.

4.4. I do not trust my government in the way they handle the Coronavirus crisis.

5. **Belief in conspiracy theories** *(1 – strongly disagree … 7 – strongly agree)*
   5.1. I think that the public is never informed about many of the very important things happening in the world.
   5.2. I think that politicians don't usually reveal the true motives behind their decisions.
   5.3. I think that government agencies closely monitor all citizens.
   5.4. I think that events, which superficially seem to lack a connection, are often the result of secret activities.
   5.5. I think there are secret organizations that greatly influence political decisions.
   5.6. Jews or Zionists have engineered the Coronavirus as a biological weapon, in order todominate the world.

Appendix 2 Cronbach-alpha values of latent variables

Latent variables	**Cronbach-alpha**
Compliance	0.67
Social norm enforcement	0.70
Populist Attitude	0.71
Belief in Conspiracy Theories	0.82
Dissatisfaction with Government Measures	0.83