SOCIETAL EFFECTS OF COVID-19 CONSPIRACY THEORIES

Conspiracy theories and their societal effects during the COVID-19 pandemic

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Accepted for publication at Social Psychological and Personality Science

Abstract

During COVID-19, conspiracy theories were intensely discussed in the media. Generally, both believing in specific conspiracy theories (i.e., explanations for events based on powerholders' secret arrangements) and the general tendency to believe in conspiracy theories—a so-called conspiracy mentality—have been found to predict cognition and behavior with negative societal effects, such as low institutional trust. Accordingly, believing in conspiracy theories around COVID-19 should mitigate institutional trust, support of governmental regulations and their adoption, as well as societal engagement (e.g., helping members of risk groups). We tested these predictions in a national random sample survey, an experiment, and a longitudinal study ($N_{total} = 1,213$; all studies were preregistered). Indeed, believing in and being confronted with a COVID-19 conspiracy theory decreased institutional trust, support of governmental regulations, adoption of physical distancing, and—to some extent—social engagement. Findings underscore the severe societal effects of conspiracy theories in the context of COVID-19.

(150 words)

Keywords: conspiracy theory, conspiracy mentality, COVID-19, trust, social influence

As COVID-19 was spreading around the world, so did conspiracy theories—i.e., explanations for events based on powerholders’ secret, malevolent arrangements (Goertzel, 1994)—about the virus according to media reports (Gogarty & Hagle, 2020; Schulman & Siman-Tov, 2020). Some of these theories centre around the origin of the virus, while others focus on the local or national reaction to the pandemic (e.g., “Powerful people are using COVID-19 in order to crash the economy”, Gogarty & Hagle, 2020). Believing in conspiracy theories is known to undermine prosocial behavior and trust in authorities (Imhoff et al. 2018; Jolley & Douglas, 2014a)—both are key to the successful fight against COVID-19. Indeed, the fight against this pandemic will, according to most experts (e.g., Chu et al., 2020), only be successful when most people adopt hygiene measures and physical distancing—thereby following governmental recommendations. Accordingly, the support of conspiracy theories is likely to endanger the success of efforts to fight the pandemic.

An investigation of the consequences of beliefs in a conspiracy theory related to COVID-19 on attitudes and behavior during the pandemic thus is of highest societal relevance and the main objective of the current research. Across one survey study with a national random sample, one experiment, and one longitudinal study we examine the influence of the belief in and the confrontation with a conspiracy theory about the governmental reaction to COVID-19, the *Political Covid-19 Conspiracy* (PCC). More specifically, the PCC suggests that the powerful in one’s society are exploiting the pandemic to their advantage. Overall, our studies not only contribute to the understanding of conspiracy theories during the fight against COVID-19, but also to the understanding of effects of conspiracy theories in general, for instance, by advancing research on conspiracy theories by testing their *consequences* in an experiment and a longitudinal study—including analyses for a reversed direction of relations.

Effects of conspiracy theories

Conspiracy theories are built on the notion that a powerful group is acting in secret, thus building on (and potentially also creating) suspicion towards the powerful such as the government. Therefore, it is not surprising that a general conspiracy mentality—i.e., the mental preparedness to belief in conspiracy theories (Imhoff & Bruder, 2014)—is negatively related with trust in experts and authorities (Imhoff et al., 2018; Imhoff & Lamberty, 2018). Being confronted with conspiracy theories, in addition, reduces the willingness to engage in joint societal efforts: For instance, being confronted with an anti-vaccine conspiracy theory decreased vaccination intentions (Jolley & Douglas, 2014b), and being confronted with a conspiracy theory about global warming reduced pro-environmental behavior (Van der Linden, 2015). Taken together, this suggests that in the context of COVID-19 believing in or being confronted with a PCC should undermine trust in the government and other authorities as well as prosocial attitudes and behaviors.

What attitudes and behaviors are likely to be affected by the belief in a conspiracy theory and are relevant in the context of COVID-19? First, trusting is closely related to agreement with the trustee's arguments (e.g., Légal et al., 2012). Hence, a stronger belief in PCC should also lead to less support of governmental regulations in the context of COVID-19. Second, these regulations strongly require (among others) two types of behavior, namely, the adoption of hygiene measures and physical distancing. Whereas hygiene measures are a well-established means of health prevention, physical distancing has been a so far unfamiliar measure for societies at large. Consequently, those measures are applied out of different motivations: Hygiene measures are in line with intuitive responses to a health threat, whereas physical distancing requires trust in health officials. Accordingly, a stronger belief in PCC should lead to less physical distancing, but not necessarily affect the adoption of hygiene measures. Indeed, first

studies provide evidence that the belief in PCC is negatively related to behavior relevant for the containment of the COVID-19 pandemic in general (Imhoff & Lamberty, in press; Teovanovic et al., 2020) and specifically to physical distancing (Biddlestone et al., 2020; Bierwiazzonek et al., in press). Finally, there was a wave of prosocial behavior related to the pandemic such as helping vulnerable people at high risk to deal with the situation (BBC, 2020; Vergin, 2020). Given that conspiracy beliefs have been shown to undermine prosocial behavior in other domains, the belief in PCC might also predict lower social engagement related to the pandemic.

In sum, we predicted that the belief in PCC leads to (i) lower institutional trust, (ii) lower support of governmental regulations, (iii) lower adoption of physical distancing (but not lower adoption of hygiene measures), and (iv) lower social engagement.

Overview of current research

So far, most research tested the relation between the *belief* in conspiracy theories and other variables, such as trust, using cross-sectional or correlational studies (e.g., Goertzel, 1994; Imhoff & Lamberty, 2018). More recently, experimental studies started to provide evidence for the effects of the *confrontation* with conspiracy theories with the aim to establish causality (e.g., Einstein & Glick, 2015; Jolly & Douglas, 2014a; Van der Linden, 2015). Longitudinal research that provides evidence for the effects of *beliefs* across time is very rare. The only exception we are aware of is a very recent article by Bierwiazzonek et al. (in press), demonstrating that the belief in COVID-19 conspiracy theories predicts lower physical distancing. Extending this work, we sought to test (i) whether this effect generalizes to trust in and support for governmental regulations, as well as social engagement, and (ii) whether the confrontation with a PCC results in the same effects.

Tackling these gaps and in order to provide a comprehensive test of our predictions, we conducted a cross-sectional correlational study using a random sample (Study 1), an experiment

confronting participants with a PCC (Study 2), and a two-wave longitudinal study testing the predicted effects of belief in a PCC across time (and also the reversed order; Study 3).

Study 1: Survey study

Methods

Participants and procedure

This preregistered study (see Supplement) was part of the weekly COVID-19 Snapshot Monitoring in Denmark (COSMO Denmark; see <http://dx.doi.org/10.23668/psycharchives.2795>). Therefore, the sample size was not tailored to the current research question. Instead, a random sample of 5,000 people of the Danish adult population (for details see Supplement) was invited on March 30, 2020, via citizens' official digital mail (*e-Boks*, see <https://e-boks.com/danmark/en/>) to complete an online survey set up via formr (Arslan et al., 2020) about COVID-19, which was completed by 775 respondents (15.5%). As preregistered, 344 participants were excluded from the analyses, because they worked in the health sector, are chronically ill, or had been infected by the virus, leaving a sample size of $N = 425$ (48.9% = male, 50.8% = female; $M_{\text{Age}} = 52.53$, range: 20-84 years). According to a sensitivity power analysis, this sample size is sufficient to detect an effect of $r = .173$ with 95% power and of $r = .135$ with 80% power, respectively. Responses to all items were voluntary and participants were only included in the analyses when they responded to all items of a scale, which is why N s vary slightly across analyses. A complete list of measures, further methodological details, and deviations from the preregistrations for all three studies are included in the Supplement. All data and scripts will be made available via PsychArchives.org as soon as the manuscript will be published.

Measures

For internal consistency and descriptive statistics of each scale, see Table 1.

Institutional trust was assessed with five items measuring trust towards the police, state authorities, politicians, experts, and hospitals/doctors, respectively, on a 7-point scale from 1: *Very low confidence* to 7: *Very high confidence*.

Support of governmental regulations: Participants rated their perception of the appropriateness of 18 policies implemented by the Danish government to fight COVID-19 (e.g., “It makes sense that schools and day-care institutions are closed”) on a scale from 1: *Disagree* to 7: *Agree*.

Adoption of physical distancing was assessed by letting participants evaluate two behaviors aimed at keeping distance to other people on a 7-point scale from 1: *Never* to 7: *Often* (e.g., “I try to limit the amount of physical contact I have with others [e.g. handshakes, kisses on the cheek, hugs]”).

Adoption of hygiene measures was assessed regarding three behaviors communicated by health officials aimed at avoiding infection (e.g., “I make sure to cough or sneeze in my sleeve rather than in my hands”) on a 7-point scale from 1: *Never* to 7: *Often*.

Social engagement was assessed with five items (e.g., “Helping elderly, sick or quarantined people with shopping or related tasks”) on a 3-point scale (1: *I've already done this*, 2: *I plan to do this*, 3: *I do not plan to do this*). The internal consistency of this scale and the adoption of hygiene measures was not satisfying, which could also not be improved by excluding items. Thus, results need to be interpreted with caution.

PCC items were inspired by news articles (e.g., Karni, 2020; NDR Kultur, 2020) and tweets (Mitchell, 2020; Kirk, 2020). Participants rated five items (e.g., “Powerful people are using COVID-19 in order to crash the economy”) on a 5-point scale from 1: *Disagree* to 5: *Agree*.

Table 1

Internal consistency, mean, and standard deviation for all scales in Study 1

Variable (possible response range)	<i>N</i>	α	<i>M</i> (<i>SD</i>)
Institutional trust (1-7)	421	.86	5.98 (0.84)
Support of governmental regulations (1-7)	399	.90	6.04 (0.84)
Adoption of physical distancing (1-7)	422	.74	6.79 (0.64)
Adoption of hygiene measures (1-7)	420	.62	6.40 (0.78)
Social engagement (1-3)	418	.48	1.46 (0.40)
Political COVID-19 Conspiracy (PCC; 1-5)	416	.79	1.71 (0.72)

Results

We tested the hypothesized relation between PCC and all outcome measures in multiple regressions controlling for participants' gender, children (yes/no), and education (see Table 2). Due to a high number of missing values ($N = 164$) and hereby deviating from our preregistration, we did not include age in these analyses. As hypothesized, people who believed to a stronger extent in the PCC reported lower institutional trust, lower support of governmental regulations, less adoption of physical distancing, and less social engagement. As further predicted, PCC was unrelated to the adoption of hygiene measures. Results including age as additional predictor showed the same effects, except for an insignificant prediction of social engagement (see Supplement).

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Table 2

Multiple regressions for all outcomes on Political COVID-19 Conspiracy (PCC), gender, children, and education

	Institutional trust				Support of governmental regulations				Adoption of physical distancing				Adoption of hygiene measures				Social engagement			
	(df = 401)				(df = 381)				(df = 403)				(df = 401)				(df = 397)			
Predictors	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI
PCC	-0.30 (0.06)	-0.26	< .001	[-0.417; -0.192]	-0.40 (0.06)	-0.34	< .001	[-0.509; -0.285]	-0.14 (0.05)	-0.15	.003	[-0.227; -0.048]	-0.05 (0.05)	-0.05	.308	[-0.154; 0.049]	-0.07 (0.03)	-0.12	.018	[-0.123; -0.012]
Gender	0.16 (0.08)	0.09	.051	[-0.001; 0.320]	0.05 (0.08)	0.03	.564	[-0.114; 0.208]	0.02 (0.06)	0.02	.766	[-0.108; 0.146]	0.13 (0.07)	0.09	.077	[-0.014; 0.270]	0.04 (0.04)	0.05	.309	[-0.038; 0.120]
Children	-0.11 (0.09)	-0.06	.213	[-0.293; 0.066]	-0.15 (0.09)	-0.08	.113	[-0.326; 0.035]	-0.17 (0.07)	-0.12	.018	[-0.314; -0.029]	-0.47 (0.08)	-0.28	<.001	[-0.626; -0.309]	-0.08 (0.05)	-0.09	.086	[-0.167; 0.011]
Education	0.05 (0.06)	0.04	.462	[-0.076; 0.166]	-0.13 (0.06)	-0.10	.041	[-0.248; -0.005]	-0.01 (0.05)	-0.01	.917	[-0.100; 0.090]	-0.05 (0.05)	-0.04	.383	[-0.153; 0.059]	0.04 (0.03)	0.06	.225	[-0.023; 0.096]

Discussion

This survey study provided first evidence for our hypothesis that the belief in PCC is related to lower institutional trust, support of governmental regulations, adoption of physical distancing, and social engagement. No relation was found between belief in PCC and adoption of hygiene measures. Given that the internal consistency of the social engagement scale was relatively low and that the effect of PCC on this outcome did not hold when only participants providing their age were included, this particular finding needs to be treated with caution. The low internal consistency might have resulted from the fact that we assessed prosocial behavior across very different domains, where adopting one behavior might exclude adopting another one (e.g., for time reasons). We altered this measure in Study 2 accordingly. Due to its cross-sectional design, the current study did not allow to draw any conclusions about causality. Therefore, we experimentally manipulated the confrontation with a PCC in Study 2.

Study 2: Experimental study

Methods

Participants and procedure

We aimed to recruit 200 participants to be able to detect an effect of $d = 0.40$ (roughly the mean effect size across the four outcome measures in Study 1) at 80% power with $\alpha = .05$. Participants were invited via a German university's student mailing list on May 29, 2020 for participation in a short study about COVID-19. Of the 261 who completed the questionnaire 19 participants were excluded, based on preregistered criteria (<https://aspredicted.org/blind.php?x=a7q47t>), leaving $N = 242$ participants for the final sample (69.8 % female, 28.1 % male; $M_{\text{Age}} = 23.98$, range 18-61 years). Participation was not compensated. Due to unexpectedly quick responses, the sample size was slightly larger than planned.

After providing consent, participants in the PCC condition read about a fictitious conspiracy theory in the format of a news report. In this report, it was suggested that a big German company was using COVID-19 as a cover to ally with the government in order to implement digital medical data storage (see Supplement). Participants considered the text as medium plausible ($M = 3.29$, $SD = 1.67$, 7-point response scale from 1: *not at all* to 7: *totally plausible*). No text was given in the control condition. Afterwards, the measures described below were administered. Participants in the experimental condition were then very thoroughly debriefed, after which the belief that the company was involved in a conspiracy theory was lower in the experimental vs. control group, $t(234.24)^1 = -2.17$, $p = .031$, $d = 0.28$.

Measures

Items were similar to those in Study 1, but adapted to the German language and context. Descriptive statistics and internal consistency for all scales are reported in Table 3.

Institutional trust was assessed with four items about trust in the federal and state ministries as well as federal institutions with a 7-point scale from 1: *really low trust* to 7: *really high trust*.

Support of governmental regulations: Participants indicated their support for 11 regulations implemented in Germany to fight the virus in case of another rapid spread (e.g., school closure; 1: *totally unacceptable* to 7: *totally acceptable*).

Adoption of physical distancing consisted of six items, two items used in Study 1 plus four additional items for better reliability (e.g., “Do not meet in big groups”), which were

¹ Non-integer degrees of freedom indicate that a Welch-test was used to correct for differences in variance between conditions.

answered regarding another rapid spread using a slider from *I would not do it (0%)* to *I would do it (100%)*.

Social engagement in case of another rapid spread was measured with seven items (e.g., “Offering to talk with people at risk”), four of them also included in Study 1, with a slider from *0%: I would not do it*, to *100%: I would do it*. The substantial changes to this scale resulted in a higher internal consistency.

PCC was assessed with the same 5 Items as in Study 1.

Conspiracy Mentality (CM) was assessed using the 12-item scale by Imhoff and Bruder (2014; e.g., “Those at the top do whatever they want”) from 1: *Disagree* to 7: *Agree* in order to explore whether the manipulation specifically affects the belief in PCC or also CM more generally.

Table 3

Internal consistency, mean, and standard deviation for all scales in Study 2 (N = 242)

Variable (response scale)	α	<i>M</i> (<i>SD</i>)
Institutional trust (1-7)	.85	5.38 (0.98)
Support of governmental regulations (1-7)	.88	5.44 (0.96)
Adoption of physical distancing (0-100)	.77	86.55 (13.50)
Social engagement (0-100)	.72	36.52 (18.60)
Political COVID-19 Conspiracy (PCC; 1-7)	.76	2.32 (1.12)
Conspiracy Mentality (CM; 1-7)	.89	3.10 (1.08)

Results

Manipulation check

As intended, participants confronted with the conspiracy theory ($M = 2.57$; $SD = 1.29$) scored higher on the PCC scale than participants in the control group ($M = 2.14$; $SD = 0.94$), $t(177.68) = 2.82$, $p = .005$, 95%-CI $_{\Delta M}$ [0.128; 0.721], $d = 0.38$. Regarding conspiracy mentality, the PCC group ($M = 3.21$, $SD = 1.14$) did not differ from the control group ($M = 3.02$, $SD = 1.03$), $t(240) = 1.41$, $p = .159$, 95%-CI $_{\Delta M}$ [-0.078; 0.474], $d = 0.17$, suggesting that the confrontation affected the belief in PCC but not CM more generally.

Hypothesis tests

We tested our hypothesis that being confronted with PCC leads to lower institutional trust, support of governmental regulations, adoption of physical distancing, and social engagement using independent sample t -tests (Welch-tests in cases where the variance differed between conditions, see Table 4). As hypothesized, participants in the PCC (vs. control) condition reported lower institutional trust, less support of governmental regulations, and less adoption of physical distancing. Contradicting our prediction, social engagement did not differ between conditions.

Table 4

Means, standard deviations and test statistic comparing experimental and control group in Study 2 ($N = 242$)

Variable (response scale)	PCC group		Control group		Test statistics				
	M	SD	M	SD	df	t	p	95%-CI	d
Institutional trust (1-7)	5.23	1.10	5.49	0.88	190.24	-1.97	.050	[-0.518; <0.001]	0.26

Support of governmental regulations (1-7)	5.23	1.05	5.59	0.87	240	-2.96	.003	[-0.607; -0.122]	0.37
Adoption of physical distancing (0-100)	84.54	14.42	88.05	12.63	202.48	-1.97	.050*	[-7.022; -0.005]	0.26
Social engagement (0-100)	35.54	17.78	37.25	19.22	240	-0.71	.481	[-6.479; 3.058]	0.09

Note: *exact p-value was .04969.

Discussion

Results from this experiment largely replicate the results of the correlational Study 1. Individuals were affected by the confrontation with a PCC in the expected direction: less institutional trust, less support of governmental regulations, and less adoption of physical distancing, although the effects for adoption of physical distancing as well as institutional trust were on the margin of the conventional levels of significance (one p slightly smaller and one slightly larger than .05). It seems noteworthy that these consequences resulted from simply reading a short text about the mentioned conspiracy theory, though.

As a limitation, participants in the control condition did not read any text, which is an additional difference between conditions beside the confrontation with the conspiracy in the experimental condition and might thus have affected the results. However, additional analyses reported in the Supplement (Table S11) showed that PCC carried large parts of the effect of the experimental manipulation. Therefore, we are confident that the results can be interpreted as an outcome of confrontation with the PCC.

Study 3 aimed to come as close as possible to the test of causal effects of the belief in (rather than the confrontation with) a PCC. To this end, we implemented a longitudinal design. In addition, we also aimed to replicate the findings from Study 1 in a cross-sectional analysis.

Study 3: Longitudinal study

Methods

Participants and procedure

Participants were invited during the first shutdown in Germany on March 24, 2020 via the student mailing list of a Germany university to fill in an online questionnaire in exchange for the chance of winning one of twenty-five 10 € gift cards. At timepoint 1 (t1) we aimed to recruit 350 participants to be able to detect correlations of $r = .15$ at 80% power with $\alpha = .05$. Due to unexpectedly quick responses, data collection was only stopped after 552 university students completed the study of which 546 (69.6 % female, 30 % male; $M_{\text{Age}} = 24.11$, range 18-61 years) fulfilled the preregistered inclusion criteria (for t1: <https://aspredicted.org/blind.php?x=47ip9y>; for t2: <https://aspredicted.org/blind.php?x=es8m7f>).

After providing informed consent, participants completed measures of institutional trust, support of governmental regulations, adoption of physical distancing, adoption of hygiene measures, social engagement, CM, and belief in PCC (for additional measures unrelated to the current hypotheses see Supplement). At the end of the questionnaire, participants could voluntarily provide their e-mail address and consent to be invited for a second wave, which 192 participants did. Between May 15 and 28—when shops had reopened, but a lot of restrictions were still in place in Germany—, 150 participants took part in the second survey (t2), with 134 participants (15.7% = male, 83.6% = female; $M_{\text{Age}} = 24.18$, range: 18-61 years) fulfilling the preregistered inclusion criteria. With the given sample size the longitudinal analysis can detect an effect of $f^2 = .059$ ($\approx r = .24$) with 80% power and $\alpha = .05$ according to a sensitivity power analysis using G*Power (Faul et al., 2007). No substantial differences between this subgroup and the whole sample regarding the variables included in the analyses below occurred (for details see Supplement).

Measures

Table 5 provides information about descriptive statistics and internal consistency of the scales.

Institutional trust and support of governmental regulations were assessed with the same scales as in Study 2.

Adoption of physical distancing was assessed using one item at t1 (“Do not meet other people”). For t2, the same six items were used as reported in Study 2. Adoption of physical distancing, hygiene measures, and complementary medicine all used the same slider from 0: *I have not adapted* to 100: *I have 100% adapted this behavior*.

Adoption of hygiene measures was captured by three behaviors at t1 and five at t2 communicated by the Centers for Disease Control and Prevention (2020) and its German equivalent, the Robert Koch Institute (2020) (e.g., “In case you have to sneeze: Cover your mouth and nose with a tissue”), which resembled the hygiene items used in Study 1 but considers differences between recommendations in Denmark and Germany.

Adoption of complementary medicine: For exploratory purposes we also asked about behavior changes that are implemented to avoid a COVID-19 infection with eight behaviors that have no scientifically proven impact in fighting the virus (adapted from Betsch et al., 2020; e.g., “Drinking ginger tea”). Similar questions are part of the prepping behavior measure by Imhoff and Lamberty (in press), which contained items about the reliance on alternative remedies.

Social engagement was measured with four items at t1, (e.g., “Could you imagine to socially engage during the pandemic by running errands for members of the risk population?”) with a slider from 0: *not willing to engage*, to 100: *willing to engage*. At t2, the same seven items as in Study 2 (including the four items from t1) were used, this time measured on a 3-point scale (would not do it – would do it – already have done it) to also include self-reported behavior in the indicator.

Conspiracy Mentality (CM) and PCC were assessed using the same scales as in Study 2.

Table 5

Internal consistency, mean, and standard deviation for all scales at t1 (N = 546) and t2 (N = 134) in Study 3

Variable (response scale)	t1		t2	
	α	<i>M</i> (<i>SD</i>)	α	<i>M</i> (<i>SD</i>)
Institutional trust (1-7)	.87	5.61 (1.05)	.84	5.49 (0.96)
Support of governmental regulations (1-7)	.91	5.99 (0.98)	.89	5.47 (0.95)
Adoption of physical distancing (0-100)	-	86.08 (22.85)	.64	85.34 (14.17)
Adoption of hygiene measures (0-100)	.55	62.18 (27.23)	.68	61.52 (23.42)
Social engagement (0-100 at t1; 1-3 at t2)	.63	55.82 (25.99)	.43	1.77 (0.29)
Adoption of complementary medicine (0-100)	.71	10.58 (13.90)	.79	11.96 (16.54)
Political COVID-19 Conspiracy (PCC; 1-7)	.77	2.16 (1.06)	.69	2.06 (0.91)
Conspiracy Mentality (CM; 1-7)	.90	3.34 (1.15)	.89	2.98 (1.03)

Results

Cross-sectional analysis

Table 6

Bivariate correlations between the Political COVID-19 Conspiracy (PCC) scale as well as Conspiracy Mentality (CM) scale and outcomes assessed at t1 (N = 546) in Study 3

	PCC			CM		
	<i>r</i>	<i>p</i>	95%-CI	<i>r</i>	<i>p</i>	95%-CI
Institutional trust	-.39	<.001	[-0.454; -0.311]	-.30	<.001	[-0.374; -0.221]

Support of governmental regulations	-.33	<.001	[-0.398; -0.248]	-.11	.011	[-0.191; -0.025]
Adoption of physical distancing	-.30	<.001	[-0.372; -0.219]	-.17	<.001	[-0.253; -0.090]
Adoption of hygiene measures	.05	.251	[-0.035; 0.133]	.07	.089	[-0.011; 0.156]
Social engagement	-.09	.031	[-0.175; -0.009]	-.01	.799	[-0.095; 0.073]
Adoption of complementary medicine	.20	<.001	[0.120; 0.281]	.22	<.001	[0.139; 0.299]

As in Study 1, we computed bivariate correlations between PCC and the outcome measures at t1 (see Table 6). People who believed stronger in the PCC trusted institutions less, supported governmental regulations less, and reported less physical distancing as well as social engagement. Adoption of hygiene measures was unrelated to the belief in PCC. These results are consistent with the results of Studies 1 and 2. They should, however, be considered as exploratory, due to deviations from our preregistration regarding scale composition (for details see Supplement).

Additional exploratory analyses indicate that the belief in PCC was positively related to the adoption of complementary medicine. Moreover, the correlations between CM and the outcome measures match those for belief in PCC, except that CM does not correlate with social engagement.

Longitudinal analysis

Next, we tested our hypotheses using the cross-lagged prediction of each outcome measure at t2 by PCC at t1, controlling for the respective outcome at t1 using separate linear regressions (see Table 7). As hypothesized, PCC predicted lower institutional trust, and (marginally) also lower support of governmental regulations. Different to our hypotheses, PCC at t1 did not predict the adoption of physical distancing and social engagement at t2. Additional

exploratory tests for the reverse direction of the relation (i.e., regressing PCC-t2 on PCC-t1 and institutional trust-t1 or support of governmental regulations-t1) did not provide evidence for the prediction of PCC from institutional trust or support of governmental regulations (see Table 9). Thus, the belief in PCC seems to affect institutional trust and support of governmental regulations rather than the other way around.

When entering CM at t1 as predictor for exploratory purposes, it likewise predicted institutional trust and support of governmental regulations, but no evidence for the reverse direction of the relation occurred (see Tables 8 & 9), suggesting that both concepts have similar longitudinal effects.

Table 7

Multiple regression analyses in rows with Political COVID-19 Conspiracy (PCC) (t1) and criterion (t1) as predictors of criterion (t2) (N = 134) in Study 3

	PCC (t1)				Criterion (t1)			
	<i>B (SE)</i>	β	<i>p</i>	95%-CI	<i>B (SE)</i>	β	<i>p</i>	95%-CI
Institutional trust (t2)	-0.16 (0.08)	-0.15	.037	[-0.315; -0.010]	0.57 (0.08)	0.54	<.001	[0.418; 0.715]
Support of governmental regulations (t2)	-0.17 (0.09)	-0.16	.051	[-0.348; 0.001]	0.39 (0.11)	0.31	<.001	[0.181; 0.599]
Adoption of physical distancing (t2)	-1.90 (1.36)	-0.12	.164	[-4.591; 0.787]	0.14 (0.06)	0.21	.019	[0.024; 0.264]
Adoption of hygiene measures (t2)	-0.01 (1.94)	0.00	.998	[-3.846; 3.836]	0.46 (0.07)	0.53	<.001	[0.330; 0.588]
Social engagement (t2)	< 0.01 (0.02)	0.00	.977	[-0.045; 0.047]	0.01 (0.00)	0.53	<.001	[0.004; 0.007]
Adoption of complementary medicine (t2)	2.26 (1.27)	0.12	.078	[-0.259; 4.783]	0.70 (0.08)	0.59	<.001	[0.537; 0.861]

Note: Analyses for adoption of physical distancing and complementary medicine are exploratory and therefore not reported in the main text.

Table 8

Multiple regression analyses in rows with Conspiracy Mentality (CM) (t1) and criterion (t1) as predictors of criterion (t2) (N = 134) in Study 3

	CM (t1)				Criterion (t1)			
	<i>B (SE)</i>	β	<i>p</i>	95%-CI	<i>B (SE)</i>	β	<i>p</i>	95%-CI
Institutional trust (t2)	-0.18 (0.06)	-0.20	.006	[-0.300; -0.052]	0.57 (0.07)	0.55	<.001	[0.429; 0.718]
Support of governmental regulations (t2)	-0.26 (0.07)	-0.30	<.001	[-0.398; -0.125]	0.42 (0.10)	0.33	<.001	[0.220; 0.612]
Adoption of physical distancing (t2)	-0.93 (1.13)	-0.07	.415	[-3.161; 1.311]	0.15 (0.06)	0.22	.012	[0.034; 0.273]
Adoption of hygiene measures (t2)	0.11 (1.62)	0.01	.945	[-3.096; 3.319]	0.46 (0.07)	0.52	<.001	[0.330; 0.588]
Social engagement (t2)	-0.02 (0.02)	-0.07	.350	[-0.057; 0.020]	0.01 (0.00)	0.54	<.001	[0.004; 0.007]
Adoption of complementary medicine (t2)	1.82 (1.13)	0.12	.110	[-0.418; 4.061]	0.67 (0.09)	0.56	<.001	[0.494; 0.839]

Table 9

Testing the reverse causal order: Multiple regression analyses in rows with institutional trust and support for governmental regulations (t1) and Political COVID-19 Conspiracy (PCC)/Conspiracy Mentality (CM) (t1) as predictors of PCC/CM (t2) (N = 134) in Study 3

	Institutional trust (t1)				PCC / CM (t1)			
	<i>B (SE)</i>	β	<i>p</i>	95%-CI	<i>B (SE)</i>	β	<i>p</i>	95%-CI
PCC (t2)	<0.01 (0.07)	0.00	.995	[-0.141; 0.140]	0.59 (0.07)	0.59	<.001	[0.446; 0.735]
CM (t2)	-0.01 (0.06)	-0.01	.860	[-0.130; 0.109]	0.76 (0.05)	0.79	<.001	[0.652; 0.858]

	Support of governmental regulations (t1)				PCC / CM (t1)			
	<i>B (SE)</i>	β	<i>p</i>	95%-CI	<i>B (SE)</i>	β	<i>p</i>	95%-CI
PCC (t2)	-0.06 (0.09)	-0.05	.489	[-0.235; 0.113]	0.58 (0.07)	0.57	<.001	[0.433; 0.724]
CM (t2)	-0.01 (0.07)	-0.01	.858	[-0.160; 0.133]	0.76 (0.05)	0.79	<.001	[0.653; 0.858]

Discussion

The current results replicated the findings from Study 1 and added that PCC positively predicted higher adoption of complementary medicine as well as that all outcome measures except social engagement showed the same correlation pattern with CM. Moreover, PCC and CM predicted trust and support for governmental regulations, as well as marginally the adoption of complementary medicine, but not adoption of physical distancing and social engagement across time. No evidence for reverse cross-lagged effects was found. The lack of predicted significant effects for some of the outcomes in the longitudinal analyses might be due to a lower sample size at t2 or due to the low internal consistency of the social engagement scale. The lack of a relation between PCC/CM and the adoption of physical distancing and social engagement over time might result from situational changes (the shutdown had been lifted between both measurement points). Alternatively, these behaviors might be rather stable (similar to habits) and, thus, barely any changes across time occur, which would be required to find an effect in the reported analysis.

In addition to the results reported here, we also explored the effect of another conspiracy theory, namely, that the virus was intentionally created by humans in China (see Supplement). Given that belief in one conspiracy theory is highly correlated with the belief in other—sometimes even contradictory—conspiracy theories (Bruder et al., 2013; Swami et al., 2010; Wood et al., 2012), one might assume that the China-related conspiracy theory should assert the same effects as PCC, but correlations were substantially lower. This suggests that conspiracy theories might assert mainly an effect in the domain they are about, but this needs to be tested in future research.

General discussion

The current research examined the relation between the belief in PCC and societally important attitudes as well as (self-reported) behaviors in the context of COVID-19. We tested

the hypotheses that the belief in PCC asserts a negative influence on institutional trust, support for governmental regulations, adoption of physical distancing, and social engagement, but not on the adoption of hygiene measures in a survey study with a random-sample, an experimental study, and a longitudinal study—all preregistered—conducted in two different European countries. Given that effects in some studies did not reach conventional levels of significance, we summarize the results in Figure 1. Based on effect sizes and p -values, the effects in Study 2 and the longitudinal analysis of Study 3 are weaker, which is further not surprising, given that the influence of third variables and reversed directions of relations are not accounted for in study 1. Across studies, PCC predicted less institutional trust, less support for governmental regulations, and (to a somewhat lesser extent given the results of the longitudinal analysis in Study 3) also less adoption of physical distancing. The borderline effects (i.e., $p > .03$) in these cases can, given the overall pattern, most likely be attributed to the random variance of effect sizes rather than to the non-existence of the respective effect. Moreover, PCC clearly did not predict the adoption of hygiene measures. For social engagement, no clear evidence for a relation to PCC was found. In sum, our hypotheses regarding institutional trust, support for governmental regulations, adoption of physical distancing, and (with a null effect) for hygiene measures were supported.

Figure 1

Relation between Political COVID-19 Conspiracy and outcomes variables across all studies.

Effect sizes transformed to r with 95%-CI

A number of additional findings are worth noting. First, CM also predicted institutional trust and support for governmental regulations, but none of the other measures. This indicates that considering the belief in specific conspiracy theories is worthwhile, given that PCC predicted different outcomes than the more general concept of conspiracy mentality. Second, as low institutional trust might also be the cause of lower support of governmental regulations and the adoption of behavior implied by these regulations, we preregistered and tested whether institutional trust mediates those effects of PCC. Considering all results, we found no convincing support for this mediation, because no evidence was found in those analyses testing effects of PCC (for details see Supplement). Further research should explore additional possible concepts underlying the effects of PCC.

The results extend existing research on the negative effects of conspiracy theories on societally relevant behavior by showing that such effects also occur in the context of COVID-19. Going beyond earlier research, our results suggest (a) that PCC asserts a causal effect (e.g., compared to Imhoff & Lamberty, in press), and (b) that PCC predicts trust and support for governmental regulations (but not individual health behaviors), and not only adoption of physical distancing (compared to Bierwiazzonek et al., in press). Thinking about the implications, the finding that being only confronted with a conspiracy theory can undermine institutional trust, support of governmental regulations, and adoption of physical distancing suggests that media coverage sharing conspiracy theories might counteract the fight against the virus. Given the importance of successfully fighting new COVID-19 infections, gaining the summarized insights for this specific context is a relevant contribution in itself.

The current set of studies also advances the research about conspiracies in general. The most important contribution in this respect is the demonstration that the *confrontation* with and

the *belief* in conspiracy theories are related and show the same pattern of effects. We combined—to our knowledge, for the first time—experimental and longitudinal research on PCC in a certain context and found equivalent results, even though believing in a conspiracy is very different from reading about it for the first time. This raises the question whether being convinced of a conspiracy is crucial or whether the mere knowledge about it has similar effects, which should be addressed by future research.

Second, Study 3 is among the few longitudinal studies testing the effect of conspirational thoughts across time. The findings of this study advance our knowledge about the effects of conspiracy theories, in particular because we find effects of PCC and CM across time, but not for the reversed temporal relation. Given that this is only one study, further research replicating this pattern regarding societal and other outcomes is needed.

Clearly, the current research also has some limitations. First, one methodological limitation is that the sample size of the longitudinal data set was not ideally suited for (re)testing the small to medium effects we found for some of the outcome measures in Studies 1 and 2. The overview of effect sizes suggests that a highly powered longitudinal study might also have found effects on the adoption of physical distancing and potentially also on social engagement. Second, our findings concern a political conspiracy theory surrounding COVID-19, thus around the topic of a health and global crisis. It is an open question whether the findings might generalize to other pandemics and health-related issues, and (especially) to conspiracy theories surrounding other issues. Also, the COVID-19 conspiracy as well as our measurements were political in nature, thus, there might have been an influence of, for example, ideology and other political attitudes which were not considered herein.

To conclude, the current research advances our knowledge about conspiracy theories, by demonstrating that the confrontation with and the belief in conspiracy theories are associated with

less institutional trust and lower support for and adoption of regulations put forward by these institutions. This advances research on conspiracy beliefs by showing parallel effects for confrontation with and believing in conspiracies. In the context of the COVID-19 pandemic, the current findings imply that the spread of a political COVID-19 conspiracy seems to play an important role in undermining the attitudes and behaviors related to a successful mitigation of the spread of COVID-19.

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Supporting Information

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Overview of preregistered analyses and deviations

Study	Deviation
Study 1	We deviate from the preregistration by not including age as a predictor in the multiple regression analyses testing the hypotheses, because this would have reduced the samples size by about 40% due to the missing data for age. We have added the preregistered hypotheses tests below (Table S2). Results do not differ except that social engagement is not predicted by the Political COVID-19 Conspiracy (PCC) when age is included in the regression analyses (and the sample size is thus reduced).
Study 2 & 3, time 1	We collected more observations ($N = 261/546$) than preregistered ($N = 250/350$) due to unexpectedly quick responses.
Study 3, time 1	<p>We preregistered assessing support of governmental regulations with three items, but the internal consistency for these 3 items was low ($\alpha = .51$) and one item was clearly unrelated to the other two. However, the remaining two formed a highly internally consistent scale with the additional 9 items we assessed for exploratory purposes ($\alpha = .91$). Therefore, we used all 11 items in the support for governmental regulations measure and preregistered this measure for t2. We report the analysis only using the two correlated preregistered items below (Table S11), resulting in the same conclusions than using the 11-item scale.</p> <p>In addition, we used 4 instead of 2 items (as preregistered) as index of institutional trust to increase the validity of the measure (i.e. including institutions like the German equivalent to the Centers for Disease Control and Prevention (CDC) instead of focusing only on governmental officials). Analyses using the 2 items only are reported in the supplement (Table S11). Results do not differ from those with the 4-item scale.</p>

Concept labels in this article and preregistrations

Label in this article	Label in preregistration
Institutional trust	Study 1, 2 & Study 3 t2: Trust in public institutions
	Study 3, t1: Trust in local and national government
Support of governmental regulations	Study 1: Appropriateness of implemented policies against the Covid-19 pandemic
	Study 2: Support of governmental regulations
	Study 3, t1: restrictions involving personal liberties
	t2: acceptance of governmental regulations
Adoption of physical distancing	Study 1: Physical distancing
	Study 2 & 3, t2: Adherence to social distancing guidelines.
	Study 3, t1: included in the scale measuring behavior changes due to COVID-19
Adoption of hygiene measures	Study 1 & 3,t2: Adherence to hygiene measures
	Study 3, t1: included in the scale measuring behavior changes due to COVID-19
Social engagement	Study 1: Pro-social behavior
	Study 2 & 3: Social engagement
Adoption of complementary medicine	Study 3, t1: Actionism
	t2: behaviors related to complementary medicine

Overview of measures reported in the main text

Reasons for differences in measures between studies

- (1) Study 1 was conducted in Denmark, whereas Studies 2 & 3 were conducted in Germany,
- (2) Study 1 is one instance of a weekly regular study with a fixed set of measures. Study 3, t1 had been conducted before the teams in Denmark and Germany started to cooperate. This led to different measures.
- (3) Low internal consistency of measures in a preceding study motivated additional changes.

Concept		Confirmatory or exploratory	Items [reason for changes]
Institutional trust	Study 1	preregistered hypothesis	5 items (police, government, politicians, experts, health system) [COSMO-Denmark scale]
	Study 2		4 items about trust in the federal/state ministries, federal institutions [adaptation to German context]
	Study 3		
Support of governmental regulations	Study 1	preregistered hypothesis	18 items (e.g., travel restrictions, closing schools) [COSMO-Denmark scale]
	Study 2		11 items (e.g. closing schools) [adaptation to German context]
	Study 3		
Adoption of physical distancing	Study 1	preregistered hypothesis	2 items: (avoiding close contact, avoiding contact to people at risk)
	Study 2		2 items from Study 1 plus 4 additional items (e.g. not meeting in big groups) [better reliability]
	Study 3		t1: one item (“Do not meet other people”), t2: as in Study 2
Adoption of hygiene measures	Study 1	preregistered hypothesis	3 items (washing hands, coughing in the elbow, cleaning) [COSMO-Denmark scale]
	Study 3		t1: 3 items (similar to items from Study 1) t2: 5 items [better reliability]
Social engagement	Study 1	preregistered hypothesis	5 items (e.g. helping the elderly) [COSMO-Denmark scale]
	Study 2		7 items (e.g., helping people from the risk group; four of the items also included in Study 1) [adaptation to German context; better reliability]
	Study 3		t1: 4 items similar to those in Study 1 t2: 7 items as in Study 2 [better reliability, consistency with Study 2]
Adoption of complementary medicine	Study 3	t1: preregistered hypothesis t2: exploratory	8 items (e.g., “Drinking ginger tea”).
PCC	Studies 1-3	preregistered hypothesis	5 items (e.g., “Powerful people are using COVID-19 in order to crash the economy.”)
CM	Studies 2-3	exploratory	12-item scale (Imhoff & Bruder, 2014)

Measures relevant to the current research question not reported in the main text

A full list of measures, hypotheses and results is included in the description of each study.

In all studies we preregistered that trust mediates large parts of the effects. In Study 3, we preregistered to repeat the tests of the predictions while controlling for conspiracy mentality. The tests of these hypotheses are reported in this supplement (Table S15) and summarized in the main text.

Study	Construct	Confirmatory or exploratory	Items	Reported
Study 1	Vaccination intention	preregistered hypothesis	1 item	supplement (p. 13)
Study 3, t1	belief in a China conspiracy theory	preregistered hypothesis	5 items	supplement (p. 34)
	conspirational thinking	exploratory	3 items	not reported, because we reported three other measures
Study 3, t2	China Corona Conspiracy	exploratory	4 items (same scale as at t1, excluding one item)	not reported, because conspiracy measures at t2 were exclusively used in tests for causality
	new conspiracy theory surrounding the German movement called “Widerstand2020”	exploratory	5 items	
	willingness to take a vaccination	exploratory	1 item	not reported, due to focus on longitudinal analyses
	attitude towards wearing face masks	exploratory	6 items	

Study 1: Survey study

Preregistration

Unfortunately, the automatically blinded version of the preregistration still renders us as authors identifiable. Therefore, we provide a copy of it here and share the link with the editor:

Created: 04/06/2020 07:18 AM (PT)

Shared: 06/23/2020 01:16 AM (PT)

This pre-registration is not yet public. This anonymized copy (without author names) was created by the author(s) to use during peer-review. A non-anonymized version (containing author names) will become publicly available only if an author makes it public. Until that happens the contents of this pre-registration are confidential.

1) Have any data been collected for this study already?

It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?

Is believing in a political conspiracy theory surrounding Covid-19 (Political Corona Conspiracy, PCC) correlated with the perception of and adherence to measures against the Covid-19 pandemic and are these relations mediated by trust in public institutions?

Hypotheses:

- (1) (a) People believing to a stronger extent in PCC will show less physical distancing. (b) No such relation is expected for hygiene related measures.
- (2) People believing to a stronger extent in PCC will perceive the appropriateness of policies against the Covid-19 pandemic as lower.
- (3) People believing to a stronger extent in PCC will be less willing to take a vaccination against COVID-19 in case a vaccine should become available.
- (4) People believing to a stronger extent in PCC will show less pro-social behavior in response to the Corona pandemic.
- (5) People believing to a stronger extent in PCC will have less trust in public institutions.
- (6) The correlations between PCC and (a) physical distancing, (b) perceived appropriateness of policies, (c) the willingness to get a vaccination, and (d) pro-social behavior is mediated by trust in public institutions.

3) Describe the key dependent variable(s) specifying how they will be measured.

Physical distancing: 2 items (avoiding close contact, avoiding contact to people at risk)

Adherence to hygiene measures against Covid-19: 3 items (washing hands, coughing in the elbow, cleaning)

Appropriateness of implemented policies against the Covid-19 pandemic: 18 items (e.g., travel restrictions, closing schools)

Willingness to take a vaccination: 1 item ("If a vaccine against the new coronavirus (COVID-19) becomes available I would take it")

Pro-social behavior in the context of the pandemic: 5 items (helping the elderly, providing childcare, share information, donate money, economic support for others)

Trust in public institutions: 5 items (police, government, politicians, experts, health system)

4) How many and which conditions will participants be assigned to?

There is no manipulation. PCC – the main predictor in the current analyses – will be measured with a 5-item scale (e.g., "Powerful people are using Covid-19 in order to crash the economy").

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

To test Hypotheses 1-5 we will conduct multiple regressions predicting the respective dependent variable by PCC, while controlling for participants' age, gender, children (yes/no), and education. The indirect effects described in Hypothesis 6 will be computed in R using the package "lavaan". When the outcome variable is composed of several items, we will use the mean value from these items, given the internal consistency is sufficient, i.e., Cronbach's $\alpha \geq .70$ (and reduce the items to maximize internal reliability when it is insufficient). In case of insufficient internal consistency, we will form subscales using factor analyses with varimax rotation considering all factors with an eigenvalue > 1 .

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

People with an education in the health sector, people suffering from a chronic illness, and people who have been infected with Covid-19 will be excluded from the analyses. In addition, we will only include those participants who filled out all measures named in the tests of the hypotheses, that is, age, gender, children, education, PCC, trust, adherence to hygiene measures and social distancing measures, appropriateness of policies, prosocial behavior, and willingness to take a vaccination into the analyses.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

A random sample of 5,000 people from a Danish population-representative sample (with regard to gender, age, place of residence) will be invited on March 30. Data collection has been closed on April 5. All participants who respond in this timeframe will be considered for the analyses.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

Two additional explorative analyses with no clear prediction will be run to test the correlation between PCC and the perceived effectiveness of measures for the self and for others assessed with 4 items each (washing hands, coughing in the elbow, limiting contact, and cleaning effectively).

Details on participants and procedure

Participants of the Danish sample in Study 1 were recruited as follows: In 2018, one of the authors received contact information on 100,136 Danish adult citizens from Statistics Denmark, the central Danish authority providing statistical information about Danish citizens and Denmark (<https://www.dst.dk/en>). These citizens were chosen per random, but so that they—at the time of contact information extraction—were representative for the Danish adult population with regard to age, gender, and place of residence. From this group, a random sample of 5,000 people was invited via Danish citizens' official digital mail, called e-Boks (<https://www.e-boks.com/corporate/en/>), on March 30, 2020 to participate in an online questionnaire study around the COVID-19 situation. Participation was possible until midnight at April 5, 2020, and 775 respondents (15.5%) completed the study. As preregistered, participants with an education in the health sector ($N = 131$), with a chronic illness ($N = 213$), or who had been infected with COVID-19 ($N = 6$) were excluded from the analyses. Participants filled out the online questionnaire study using the platform formr (Arslan, Walther, & Tata, 2020). The mentioned items and scales were part of a bigger survey which, in turn, represented the respective weeks' assessment of the Denmark COVID-19 Snapshot MONitoring (COSMO Denmark; see <http://copsy.dk/cosmo/> and <http://dx.doi.org/10.23668/psycharchives.2795>). Participants were free (not) to respond to each item, resulting in different N s for the different measures. In the analysis, education was coded as follows: 1 = primary education, 2 = upper secondary education, vocational education or short cycle higher education, 3 = vocational bachelor, bachelor or master, and 4 = Ph.D.

Correlations between all measures

Table S1

Bivariate correlations between all measures

		(1)	(2)	(3)	(4)	(5)	Institutional Trust
Political	<i>r</i>	-.152	-.062	-.323	-.162	-.130	-.278
COVID-19	<i>p</i>	.002	.207	.000	.001	.008	.000
Conspiracy (PCC)	<i>N</i>	415	412	392	415	409	413
	95%- CI	[-.245; -.057]	[-.158; .035]	[-.409; -.232]	[-.255; -.067]	[-.224; -.034]	[-.365; -.187]
Adoption of physical distancing (1)	<i>r</i>		.566	.258	.151	.130	.244
	<i>p</i>		.000	.000	.002	.008	.000
	<i>N</i>		418	397	421	415	419
	95%- CI		[.497; .628]	[.163; .347]	[.056; .243]	[.034; .223]	[.152; .332]
Adoption of hygiene measures (2)	<i>r</i>			.285	.162	.282	.184
	<i>p</i>			.000	.001	.000	.000
	<i>N</i>			395	419	413	417
	95%- CI			[.192; .373]	[.067; .253]	[.190; .368]	[.090; .275]
Support of governmental regulations (3)	<i>r</i>				.323	.131	.443
	<i>p</i>				.000	.009	.000
	<i>N</i>				398	393	396
	95%- CI				[.232; .409]	[.032; .227]	[.360; .519]
Willingness to take a vaccination (4)	<i>r</i>					.097	.209
	<i>p</i>					.047	.000
	<i>N</i>					416	420
	95%- CI					[.001; .192]	[.115; .298]
Social engagement (5)	<i>r</i>						.130
	<i>p</i>						.008
	<i>N</i>						414
	95%- CI						[.034; .223]

Note: Confidence intervals and effect sizes were calculated using the SPSS macro by Weaver & Koopman (2014)

Deviations from the preregistration

Variables (not) included as covariates: We predicted that PCC would predict less adoption of physical distancing (but not less adoption of hygiene measures, Hypothesis 1), less support for governmental measures (Hypothesis 2), less willingness to take a vaccination against COVID-19

(Hypothesis 3), less prosocial behavior (Hypothesis 4), and less institutional trust (Hypothesis 5).

We preregistered to test Hypotheses 1-5 with multiple regressions predicting the respective dependent variable by PCC, while controlling for participants age, gender, children (yes/no), and education. Given that 164 participants did not report their age, the sample would have been substantially reduced by including age as covariate into the analyses. Therefore, we ran the test of all predictions without the covariate age.

Table S2

Multiple regressions for all outcomes on Political COVID-19 Conspiracy (PCC) including age as covariate

	Institutional trust			Support of governmental regulations			Adoption of physical distancing			Adoption of hygiene measures			Social engagement		
	(df = 246)			(df = 229)			(df = 247)			(df = 245)			(df = 245)		
Outcomes	<i>B (SE)</i>	<i>p</i>	95%-CI	<i>B (SE)</i>	<i>p</i>	95%-CI	<i>B (SE)</i>	<i>p</i>	95%-CI	<i>B (SE)</i>	<i>p</i>	95%-CI	<i>B (SE)</i>	<i>p</i>	95%-CI
PCC	-0.22 (0.07)	.003	[-0.360; -0.072]	-0.47 (0.07)	< .001	[-0.609; -0.328]	-0.17 (0.06)	.002	[-0.283; -0.063]	-0.02 (0.06)	.712	[-0.139; 0.095]	-0.05 (0.04)	.142	[-0.123; 0.018]
Gender	0.19 (0.11)	.090	[-0.029; 0.399]	-0.02 (0.11)	.855	[-0.231; 0.192]	-0.01 (0.08)	.956	[-0.167; 0.158]	0.18 (0.09)	.041	[0.007; 0.347]	0.06 (0.05)	.259	[-0.044; 0.164]
Children	0.04 (0.14)	.783	[-0.241; 0.319]	-0.06 (0.14)	.664	[-0.343; 0.219]	-0.14 (0.11)	.214	[-0.349; 0.078]	-0.16 (0.11)	.169	[-0.376; 0.067]	-0.09 (0.05)	.181	[-0.230; 0.044]
Education	0.07 (0.08)	.400	[-0.089; 0.222]	-0.18 (0.08)	.022	[-0.337; -0.027]	0.02 (0.06)	.718	[-0.097; 0.140]	0.01 (0.06)	.819	[-0.108; 0.137]	0.05 (0.04)	.159	[-0.021; 0.130]
Age	0.01 (0.00)	.200	[-0.003; 0.013]	0.00 (0.00)	.505	[-0.005; 0.010]	0.01 (0.00)	.106	[-0.001; 0.011]	0.02 (0.00)	<.001	[0.011; 0.023]	0.00 (0.00)	.954	[-0.004; 0.004]

Additional preregistered analyses

Scale reliability/Two subscales of social engagement: We had preregistered to reduce the number of items and/or to form subscales when the internal consistency of a measure is not satisfying (i.e., Cronbach's $\alpha < .70$). In both cases, a removal of one item (for adoption of hygiene measures) or forming two subscales (for social engagement) would not have increased Cronbach's α substantially while at the same time reducing the theoretical width of the construct. For both constructs, reliability analysis (see tables S3, S4 and S5) as well as analyses (see table S6) with the reduced scale (hygiene measures) or the two subscales (social engagement) are reported below.

Table S3

Reliability analysis for the three items of the adoption of hygiene measures ($\alpha = .62$)

	Item-Scale- Correlation	Cronbach's alpha if deleted
I wash my hands often or use hand disinfectant	.61	.37
I make sure to cough or sneeze in my sleeve rather than in my hands	.39	.59
I pay extra attention to cleaning at the moment	.47	.63

Table S4

Factor loadings from principle component factor analyses with varimax rotation for Social engagement

	Component
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	1	2
Helping elderly, sick or quarantined people with shopping or related tasks?	.25	.59
Looking after other people's children so that they can work?	.09	.63
Sharing information about the novel coronavirus (COVID-19) online?	-.05	.73
Donating money to initiatives combatting the spread of the novel coronavirus (COVID-19) and/or helping those affected by it?	.79	.16
Support others financially who need it due to the financial consequences of the current coronavirus (COVID-19) outbreak?	.84	.04

Table S5

Internal consistency, mean, and standard deviation for the social engagement subscales

	<i>N</i>	α	<i>M, SD</i>
Social Engagement (1-3), all 5 items	418	.48	1.46, 0.40
- Task-related Help	418	.35	1.45, 0.47
- Financial Help	420	.52	1.46, 0.57

Table S6

Multiple regressions for the adoption of hygiene measures (2 items) and social engagement subscales on PCC, gender, children, and education

	Hygiene measures (df = 402)			Social Engagement (df = 397)			Task-related Help (df = 397)			Financial Help (df = 399)		
Outcomes:	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>

PCC	-.02	.04	.563	-.07	.03	.018	-.04	.03	.225	-.10	.04	.008
Gender	-.02	.06	.738	.04	.04	.309	.06	.05	.183	.01	.06	.877
Children	.06	.07	.410	-.08	.05	.086	-.11	.05	.047	-.04	.06	.530
Education	.00	.05	.973	.04	.03	.225	-.01	.04	.836	.11	.04	.012

Willingness to take a vaccination: The results for Hypotheses of the preregistration 1, 2, 4, and 5 are reported in the main text. Due to the focus of the manuscript and space restrictions, the results for Hypothesis 3 were dropped from the main text. PCC predicted in line with the hypothesis less willingness to take a vaccination, ($B = -0.34$, $SE = 0.10$, $p = .001$).

Mediation via institutional trust: We further expected and tested if institutional trust mediated the effect of the Political COVID-19 Conspiracy on (a) adoption of physical distancing, (b) support of governmental regulations, (c) the willingness to get a vaccination, and (d) social engagement (Hypothesis 6). Tests were conducted using the package lavaan in R (for statistical details see Table S7). Analyses revealed that the Political COVID-19 Conspiracy had an indirect effect via institutional trust on (a) adoption of physical distancing, (b) support of governmental regulations, (c) willingness to take a vaccination, and (d) social engagement. However, these analyses should be treated with caution due to the cross-sectional nature of the study. Again, these analyses were not included in the main document due to space restrictions.

Table S7

Indirect effects of the Political COVID-19 Conspiracy via institutional trust on support of governmental regulations, adoption of physical distancing, willingness to take a vaccination and social engagement via lavaan in R.

	Political COVID-19 Conspiracy	
	<i>B</i>	95%-CI
Support of governmental regulations	B = -0.13	CI = [-0.231; -0.060]
Adoption of physical distancing	B = -0.06	CI = [-0.170; -0.011]
Willingness to take a vaccination	B = -0.10	CI = [-0.209; -0.026]
Social engagement	B = -0.02	CI = [-0.037; -0.002]

Analyses for the full sample

We preregistered to exclude people working in the medical sector, those who had been infected with Covid-19, and people with a chronic illness, because our preregistration included a prediction regarding vaccination intentions and all of these groups have a different status regarding vaccinations. For working in the medical sector, receiving a vaccination might be mandatory, people who had been infected might be immune, and people with a chronic illness might not be able to receive vaccination for health reasons. Similarly, the excluded groups might also differ regarding social engagement, because people in the medical sector might need to work more, and the chronically ill are rather the one's that should receive help. Therefore, and to stick to the pre-registration, we report our results in the main text applying the preregistered exclusion criteria. Below, we report the findings for the full sample for the sake of transparency.

Table S8

Bivariate correlations between all measures

		(1)	(2)	(3)	(4)	(5)	Institutional Trust
Political	<i>r</i>	-.097	-.081	-.280	-.150	-.076	-.257
COVID-19	<i>p</i>	.008	.027	<.001	<.001	.039	<.001
Conspiracy (PCC)	<i>N</i>	750	747	702	751	736	747
Adoption of physical distancing (1)	<i>r</i>		.602	.367	.235	.120	.334
	<i>p</i>		<.001	<.001	<.001	.001	<.001
	<i>N</i>		761	712	765	748	761
Adoption of hygiene measures (2)	<i>r</i>			.398	.203	.202	.301
	<i>p</i>			<.001	<.001	<.001	<.001
	<i>N</i>			708	763	745	759
Support of governmental regulations (3)	<i>r</i>				.373	.095	.503
	<i>p</i>				<.001	.012	<.001
	<i>N</i>				714	699	709
						.083	.221

Willingness to take a vaccination (4)	<i>r</i> <i>p</i> <i>N</i>	.024 750	<.001 764
Social engagement (5)	<i>r</i> <i>p</i> <i>N</i>		.099 .007 746

Table S9

Multiple regressions for all outcomes on Political COVID-19 Conspiracy (PCC), gender, children, and education

	Institutional trust				Support of governmental regulations				Adoption of physical distancing				Adoption of hygiene measures				Social engagement			
	(df = 714)				(df = 674)				(df = 717)				(df = 716)				(df = 705)			
Outcomes	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI	B (SE)	β	p	95%-CI
PCC	-0.31 (0.05)	-0.25	< .001	[-0.405; -0.222]	-0.37 (0.05)	-0.30	< .001	[-0.454; -0.275]	-0.10 (0.04)	-0.10	.010	[-0.176; -0.024]	-0.07 (0.04)	-0.07	.064	[-0.152; 0.004]	-0.04 (0.02)	-0.07	.064	[-0.083; .002]
Gender	0.16 (0.07)	0.09	.013	[-0.035; 0.290]	0.11 (0.07)	0.07	.079	[-0.013; 0.236]	0.05 (0.05)	0.04	.338	[-0.054; 0.157]	0.19 (0.06)	0.12	.001	[0.079; 0.294]	0.05 (0.03)	0.07	.076	[-0.006; 0.113]
Children	-0.10 (0.07)	-0.05	.167	[-0.248; 0.043]	-0.09 (0.07)	-0.04	.229	[-0.229; 0.055]	-0.17 (0.06)	-0.10	.005	[-0.293; -0.052]	-0.41 (0.06)	-0.24	<.001	[-0.531; -0.286]	-0.06 (0.04)	-0.06	.095	[-0.127; 0.010]
Education	0.05 (0.05)	0.04	.260	[-0.040; 0.148]	-0.16 (0.05)	-0.13	.001	[-0.253; -0.067]	-0.01 (0.04)	-0.01	.897	[-0.083; 0.073]	-0.08 (0.04)	-0.07	.047	[-0.159; -.001]	0.03 (0.02)	0.05	.234	[-0.017; 0.070]

SOCIETAL EFFECTS OF COVID-19 CONSPIRACY THEORIES

Research materials

Given that this was part of a larger study (<http://dx.doi.org/10.23668/psycharchives.2795>), we do not report all items assessed in this wave, but only the items relevant for the analyses and names of the otherwise assessed concepts.

Demographics

Infection of self and other

Perceived knowledge

Risk perception

Preparedness

Efficacy

Following recommendations

Perceived effectiveness of measures for oneself & for others

Adoption of hygiene measures

Adoption of hygiene and physical distancing measures were presented in one block. Order of items is indicated below.

Angiv venligst hvor uenig eller enig du er i følgende udsagn.

Please indicate the extent to which you disagree or agree with the following statements.

1. Jeg vasker mine hænder tit eller bruger håndsprit *I wash my hands often or use hand disinfectant*
2. Jeg sørger for at hoste eller nyse i mit ærme i stedet for mine hånd *I make sure to cough or sneeze in my sleeve rather than in my hands*
4. Jeg er ekstra opmærksom på rengøring for tiden *I pay extra attention to cleaning at the moment*

Adoption of physical distancing

3. Jeg prøver at begrænse den fysiske kontakt med andre (f.eks. håndtryk, kindkys, kram) *I try to limit the amount of physical contact I have with others (e.g. handshakes, kisses on the cheek, hugs)*
5. Jeg holder afstand til de ældre og/eller folk som jeg ved lider af en kronisk sygdom. *I keep a distance to the elderly and/or people that I know to suffer from a chronic illness*

Perceived adoption of hygiene measures/physical distancing from family and friends

Affect

Trust in news sources

Media usage

Institutional trust

Hvor meget tillid har du til, at de følgende individer og institutioner er i stand til at håndtere den nye coronavirus (COVID-19) godt og korrekt?

How much confidence do you have in the below individuals and organisations that they are capable of handling the novel coronavirus well and correctly?

1. Politiet *The police*
2. [Private virksomheder *Private businesses* - Item was included in the survey, but not in our scale on institutional trust.]
3. Hospitaler og læger *Hospitals and doctors*
4. Offentlige myndigheder *State authorities*
5. Eksperter (f.eks. forskere) *Experts (e.g. researchers)*
6. Politikere *Politicians*

Corona vaccination

The assessed item was part of the preregistration, but due to space limits not included in the paper and/or analyses.

Angiv venligst hvor uenig eller enig du er i følgende udsagn.

Please indicate the extent to which you disagree or agree with the following statements.

Hvis en vaccine mod den nye coronavirus (COVID-19) bliver tilgængelig ville jeg tage den. *If a vaccine against the novel coronavirus (COVID-19) becomes available, I would get it.*

Role of the government

Support of governmental regulations

Angiv venligst hvor uenig eller enig du er i følgende udsagn. *Please indicate the extent to which you disagree or agree with the following statements.*

1. Det er fornuftigt at arrangementer og begivenheder med flere end ti personer forbydes *It makes sense that functions and events with more than 10 people are prohibited*
2. Det er fornuftigt at storcentre, natklubber, diskoteker, barer og værtshuse lukkes *It makes sense that malls, night clubs, discos, bars and pubs are closed*
3. Det er fornuftigt at forbyde gæster på restauranter og caféer *It makes sense to ban guests in restaurants and cafes*
4. Det er fornuftigt at holde de danske grænser lukket *It makes sense to keep the Danish borders closed*
5. Det er fornuftigt at fly fra de områder i Verden, der er hårdest ramt af den nye coronavirus (COVID-19) forbydes at lande i Danmark *It makes sense to ban*

planes from parts of the World badly affected by the novel coronavirus (COVID-19) from landing in Denmark

6. [Det er fornuftigt at fly fra de områder i Verden, der er hårdest ramt af den nye coronavirus (COVID-19) forbydes at lande i Danmark *It makes sense to ban planes from parts of the World badly affected by the novel coronavirus (COVID-19) from landing in Denmark.* - Item was included in the survey, but not in the preregistered scale]
7. Det er fornuftigt at skoler og dagtilbud holder lukket *It makes sense that schools and day-care institutions are closed*
8. Det er fornuftigt at alle offentligt ansatte, der ikke varetager kritiske funktioner, er sendt hjem *It makes sense that all public employees who do not serve critical societal functions are sent home*
9. [Det er fornuftigt at alle private arbejdsgivere opfordres til at sørge for, at flest muligt arbejder hjemmefra *It makes sense that all private employers are encouraged to ensure that as many employees as possible work from home* - Item was included in the survey, but not in the preregistered scale]
10. Det er fornuftigt at aflyse alle ikke-akutte operationer på landets sygehuse, således at man kan prioritere patienter smittet med den nye coronavirus (COVID-19) *It makes sense to cancel all non-emergency operations at hospitals across country so that patients infected with the novel coronavirus (COVID-19) can be given priority*
11. Det er fornuftigt at garantier for behandling og udredning i sundhedsvæsenet er blevet suspenderet ved lov *It makes sense that guarantees for treatment and examination within the health care system has been suspended by law*
12. Det er fornuftigt at epidemilovgivningen er skærpet, således at myndighederne har ret til at indføre sanktioner i forhold til enkeltpersoner, der skønnes at kunne sprede smitte *It makes sense that epidemic legislation has been tightened so that the authorities have the right to impose sanctions on individuals they believe might spread infection*
13. Det er fornuftigt at apoteker kun må sælge en pakke medicin per kunde for at undgå hamstring *It makes sense that pharmacies are only allowed to sell one package of medication per customer to avoid hoarding*
14. Det er fornuftigt at forsøge at begrænse brugen af den kollektive trafik *It makes sense to try to limit the use of public transport*
15. [Det er fornuftigt at sygehuse og plejehjem opfordres til at indføre skærpede restriktioner i forhold til besøg *It makes sense that hospitals and nursing homes are encouraged to impose stricter restrictions regarding visitors* - Item was included in the survey, but not in the preregistered scale]
16. Det er fornuftigt at myndighederne har beføjelse til at tvangsbehandle folk, hvis der er mistanke om smitte af den nye coronavirus (COVID-19) *It makes sense that the authorities have the power to coerce people to compulsory treatment if there is suspicion of infection with the novel coronavirus (COVID-19)*
17. Det er fornuftigt at myndighederne har beføjelse til at tvangsvaccinere folk mod den nye coronavirus (COVID-19) *It makes sense that the authorities have the power to force people to get vaccinated against the novel coronavirus (COVID-19)*
18. Det er fornuftigt at myndighederne har beføjelse til at tvangsundersøge folk, hvis der er mistanke om smitte af den nye coronavirus (COVID-19) *It makes sense*

that the authorities have the power to forcibly examine people if there is suspicion of infection with the novel coronavirus (COVID-19)

19. Det er fornuftigt at myndighederne har beføjelse til at sætte folk i tvangskarantæne, hvis der er mistanke om smitte af den nye coronavirus (COVID-19) *It makes sense that the authorities have the power to force people to quarantine if there is suspicion of infection with the novel coronavirus (COVID-19)*
20. Det er fornuftigt at politiet har beføjelse til at bruge den fornødne magt for at sikre de nye love der er vedtaget i kampen mod den nye coronavirus (COVID-19) overholds *It makes sense that the police has the power to use the necessary power to enforce the new legislations adopted in the fight against the novel coronavirus (COVID-19)*
21. Det er fornuftigt at myndighederne har mulighed for at forbyde adgang til offentlige institutioner, supermarkeder og butikker, offentlige og private plejehjem og sygehuse, samt restriktioner på transportmidler *It makes sense that the authorities have the possibility to ban access to public institutions, supermarkets and shops, public and private nursing homes and hospitals, as well as the possibility to put restrictions on transportation*

Hoarding behavior

Fear/Worries concerning COVID-19

Empathy

Social Engagement

Hvilke af følgende handlinger har du gjort eller planlægger du at gøre for at hjælpe andre i forbindelse med udbruddet af den nye coronavirus (COVID-19).

Which of the following actions have you taken or are you planning to take to in order to help others in relation to the novel coronavirus (COVID-19) outbreak?

1. Hjælpe ældre, syge eller mennesker i karantæne med indkøb eller lignende opgaver? *Helping elderly, sick or quarantined people with shopping or related tasks?*
2. Passe andres børn, så de kan arbejde? *Looking after other people's children so that they can work?*
3. Dele informationer om den nye coronavirus (COVID-19) online? *Sharing information about the novel coronavirus (COVID-19) online?*
4. Donere penge til initiativer der bekæmper spredning af den nye coronavirus (COVID-19) og/eller hjælper dem der er berørt af den? *Donating money to initiatives combatting the spread of the novel coronavirus (COVID-19) and/or helping those affected by it?*
5. Støtte andre økonomisk som har brug for det pga. de økonomiske konsekvenser som følger af det aktuelle udbrud af coronavirus (COVID-19)? *Support others financially who need it due to the financial consequences of the current coronavirus (COVID-19) outbreak?*

[Participants additionally were given the option to write in other options of helping behavior. Answers were, however, excluded from the scale.]

Solidarity**Resilience****PCC**

Angiv venligst hvor uenig eller enig du er i følgende udsagn.

Please indicate the extent to which you disagree or agree with the following statements.

1. Nyhederne overdriver tallene og faren ved den nye coronavirus (COVID-19)
News outlets are exaggerating numbers and danger of COVID-19.
2. Magtfulde personer bruger den nye coronavirus (COVID-19) til at køre økonomien i sæk
Powerful people are using COVID-19 in order to crash the economy.
3. Panikken omkring den nye coronavirus er til dels skabt af folk som prøver at skade det politiske system
The panic about COVID-19 is partly caused by people trying to hurt the political system.
4. Det er vigtigt at tænke på økonomien i stedet for at gå i panik over en virus som alligevel ikke er så farlig
It is important to think about the economy rather than to panic about a virus that is not so dangerous after all.
5. Den nye coronavirus (COVID-19) bruges af magtfulde personer til at skade den almindelige borger
COVID-19 is just one way of the government to restrict the power of the small people.

Psychological state**HEXACO****Risk taking****Resilience****General Trust**

Study 2: Experimental study

Preregistration is openly available at:

<https://aspredicted.org/blind.php?x=a7q47t>

Details on participants and procedure

Based on preregistered inclusion criteria we excluded two students who indicated to not have answered honestly and attentively, three students who wanted to withdraw their data, and 14 students who did not spend an amount of time reading the conspiracy theory in the beginning that would according to a pretest allow to read the text completely.

Details regarding the hypothesis testing

In order to test underlying statistical assumptions, we conducted Levene-tests of homogeneity of variances. The test turned significant for institutional trust, $F(1, 240) = 6.85, p = .009$, and adoption of physical distancing, $F(1, 240) = 4.44, p = .036$. We, thus, conducted Welch-tests for unequal variances and report the results from this test in the manuscript.

Additional preregistered analyses

Like in the first study, we hypothesized and preregistered that the effect of PCC (as measured in the manipulation check) on support of governmental regulations, adoption of physical distancing and social engagement is mediated by institutional trust. Results (see Table S10) revealed a mediation of institutional trust on the support of governmental regulations as well as adoption of physical distancing. Again, due its correlational design, results should be treated with caution.

Table S10

Indirect effects of the Political COVID-19 Conspiracy via institutional trust on support of governmental regulations, adoption of physical distancing and social engagement using PROCESS (Model 4)

	Political COVID-19 Conspiracy	
	<i>B</i>	95%-CI
Support of governmental regulations	-0.10	[-0.164; -0.046]
Adoption of physical distancing	-1.51	[-2.631; -0.558]
Social engagement	-0.91	[-2.157; 0.308]

Additional analyses

Given that participants in the control condition off Study 2 did not read a text, the effects of the experimental manipulation could be attributed to other factors than the conspiracy theory. In order to rule out alternative interpretations, we tested whether the effect of the experimental condition on the outcomes is mediated by PCC, which was assessed as manipulation check, using the same scale as in Studies 1 and 3. Mediation analysis was conducted using PROCESS (Model 4). Results (see Table S11) revealed a mediation of PCC on institutional trust, support of governmental regulations as well as adoption of physical distancing. More importantly, the direct effect was in all three cases not significant and the indirect effect carried 50-70% of the total effect, which clearly indicates that the effects of the manipulation were mostly driven by differences in the belief in a political conspiracy theory.

Table S11

Indirect effects of experimental condition via PCC on institutional trust, support of governmental regulations and adoption of physical distancing using PROCESS (Model 4; Hayes, 2013)

	<i>Indirect effect</i>	<i>Direct effect</i>	Total effect
	<i>B (SE) [CI]</i>	<i>B (SE) [CI]</i>	<i>B (SE) [CI]</i>
Institutional trust	0.18 (0.07) [0.056; 0.329]	0.08 (0.11) [-0.146; 0.302]	0.26 (0.13) [0.008; 0.509]
Support of governmental regulations	0.18 (0.07) [0.051; 0.326]	0.18 (0.11) [-0.031; 0.398]	0.36 (0.12) [0.122; 0.607]
Adoption of physical distancing	1.97 (0.82) [0.573; 3.780]	1.54 (1.64) [-1.698; 4.783]	3.51 (1.74) [0.077; 6.950]

Research materials

All material and assessed items are reported here. We first display the original wording and then the English translation in italics.

1) Conspiracy theory presented in the experimental condition

Im Folgenden sehen Sie eine Interpretation der gegenwärtigen Ereignisse.

Bitte lesen Sie den Text bevor Sie mit der Umfrage beginnen, so dass Sie später generelle Fragen dazu beantworten können.

Below is an interpretation of current events.

Please read the text before you start the survey in such a way that you are able to answer general questions about it later

German (original):

Seit einigen Wochen mehren sich Zweifel an der Rechtmäßigkeit der von der Bundesregierung erlassenen Maßnahmen zur Eindämmung der SARS-CoV-2 Pandemie. In den Medien kamen lange Zeit nur solche Experten zu Wort, welche den Kurs der Bundesregierung ausdrücklich befürworteten. Wissenschaftliche Diskussion und ausgeglichene Berichterstattung war de facto nicht gegeben. Experten, welche berechtigte Kritik übten - wie bspw. Prof. Dr. Sucharit Bhakdi oder Prof. Dr. Hendrick Streek - wurden von den staatlichen Medien lange als „Corona Leugner“ diffamiert.

Mittlerweile wissen wir, dass das Coronavirus weit ungefährlicher ist als zu anfangs befürchtet. Die Mortalitätsrate, welche zu Beginn der Pandemie noch mit 2-5% beziffert wurde, ist laut den

neuesten Ergebnissen der Heinsberg-Studie wohl kaum höher als 0,37% und schon vor Beginn des Lock-Downs in Deutschland war die Basisreproduktionsrate auf einem Wert stabil unter 1.

Wieso wurden die Maßnahmen trotz alledem eingeführt und für so lange Zeit aufrechterhalten? Wer könnte von alledem einen Nutzen haben? Diese Fragen werden klar, wenn man den Blick auf das große Ganze wagt.

Seit ihrer Gründung berät und beeinflusst die neoliberale XXX-Stiftung die Bundesregierung in wichtigen gesellschaftlichen Fragen zu Sozial-, Gesundheits- und Wirtschaftspolitik. Viele der von ihr erarbeiteten Konzepte, wie beispielsweise "Hartz 4" oder die "Privatisierung des Pflegesektors", sind heute Teil unserer politischen Realität und tragen erheblich zur sozialen Ungerechtigkeit in Deutschland bei. Auch das Robert Koch Institut arbeitet bei einer Vielzahl von Forschungsprojekten mit der XXX-Stiftung zusammen und bezieht teilweise erhebliche Fördergelder von ihr.

Die Corona-Pandemie wurde von der XXX-Stiftung gezielt dafür genutzt, um ein weiteres ihrer Projekte schnell und unbemerkt durch den Bundestag zu bringen.

Mit der Berichterstattung durch die Medien und durch das Robert-Koch-Institut, beide von der XXX-Stiftung beeinflusst, wurde in der Bevölkerung und im Bundestag schnell Einigkeit darüber erzeugt, dass zeitnah Maßnahmen getroffen werden mussten, um die Ausbreitung des Virus einzudämmen. Diese überstürzte Handlungsbereitschaft wurde von der Bundesregierung dazu genutzt, um das *erweiterte Immunitätsgesetz* zu verabschieden.

Dieses schließt den Gesetzesentwurf zur digitalen Patientenakte ein. Ein Konzept, welches unter dem Namen "der digitale Patient" von der XXX-Stiftung erarbeitet wurde und dafür sorgen soll, dass sämtliche Gesundheitsinformationen eines Menschen zentral gespeichert werden können. Der entsprechende Passus wurde in der Diskussion um die Verabschiedung des erweiterten Immunitätsgesetzes im Bundestag nicht erwähnt.

Dringende Datenschutzbedenken, die bisher immer gegen eine solche digitale Patientenakte gesprochen haben, wurden so geschickt umgangen und der Anspruch an Transparenz, den wir an unsere demokratischen Entscheidungsprozesse haben sollten, wurde hier ein weiteres Mal nicht erfüllt.

Die XXX-Stiftung finanziert sich im Wesentlichen über die Dividenden des XXX-Konzerns. Zu diesem gehören neben einigen der größten deutschen Medienhäuser auch das Dienstleistungsunternehmen Arvato. Dieses verdient sein Geld mit der Bereitstellung von IT-Systemen und deren Verwaltung, und profitiert seit Jahren von der Privatisierung öffentlicher Dienstleistungen.

Es ist sehr unwahrscheinlich, dass die XXX-Stiftung die Etablierung solcher Datenstrukturen so entschieden vorantreibt, ohne dabei ein eigenes Interesse zu verfolgen. Arvato wäre einer der bestgeeignetsten Dienstleister für die Umsetzung der digitalen Patientenakte. Zudem sind die dort gespeicherten Daten von größtem Interesse für weitere Wirtschaftszweige...

English (translation):

For some weeks now, doubts about the legitimacy of the measures taken by the federal government to contain the SARS-CoV-2 pandemic have been increasing. For a long time, only those experts supporting the decisions of the federal government were featured in the media. Scientific discussion and balanced reporting was de facto non-existent. Experts who voiced critical opinions- such as Prof. Dr. Sucharit Bhakdi or Prof. Dr. Hendrick Streek - were long villainized by the state media as "Corona deniers".

We now know that the corona virus is far less dangerous than initially thought. According to the latest results of the Heinsberg study, the mortality rate, which was still estimated at 2-5% at the beginning of the pandemic, is hardly higher than 0.37%; and even before the start of the lockdown in Germany, the basic reproductive rate was consistently below 1.

Why have the measures been introduced despite all criticism and maintained for such a long time? Who could benefit from all of this? The answers to those questions become clear when looking at the bigger picture.

Since its foundation, the neoliberal XXX foundation has advised and influenced the federal government on important societal issues regarding social, health and economic policies. Many of the concepts developed by the foundation, such as "Hartz 4"[German unemployment and welfare package] or "Privatization of the care sector", are now part of our political reality and contribute significantly to the social injustice in Germany. The Robert-Koch-Institute [German institute for the identification, surveillance and prevention of diseases] also works with the XXX Foundation on a large number of research projects and in some cases receives substantial funding from it.

The corona pandemic was specifically used by the XXX Foundation to get another one of its projects through the parliament quickly and unnoticed: With the media and the Robert-Koch-Institute both being influenced by the XXX Foundation, the population and federal government quickly came to believe that measures had to be taken promptly to curb the spread of the virus. This willingness to act was used by the federal government to pass the *expanded immunity law*.

This includes the implementation of a law for digital patient records - a concept that was developed by the XXX Foundation under the name "the digital patient" and which is intended to ensure that all personal health information is stored centrally. However, the relevant passage was not mentioned in the discussion about the adoption of the extended immunity law in the Bundestag.

Important data protection concerns, which speak against the introduction of such a digital patient record, have been skillfully avoided and the goal of transparency which should be part of our democratic decision-making processes was not met once again.

The XXX Foundation is financed primarily through the dividends of the XXX Group, which consists not only of some of the largest German media companies, but also the service company Arvato. The latter earns its money from the provision and management of IT systems and has benefited from the privatization of public services for years.

It is very unlikely that the XXX Foundation pushed ahead with this project, which includes the establishment of critical data structures, without pursuing its own interest. Arvato would be one of the most suitable service providers for the implementation of the digital patient file. In addition, the data stored there is of great interest for other economic sectors, too ...

Institutional Trust

Wie sehr vertrauen Sie den unten genannten Personen und Organisationen, dass sie mit dem Coronavirus gut umgehen

How much do you trust the people and organizations below to handle the situation with the Coronavirus well?

1. Robert-Koch-Institut [*German institute for the identification, surveillance and prevention of diseases*]
2. Bundeszentrale für gesundheitliche Aufklärung *Federal Centre for Health Education*
3. Länderministerien *State Ministries*
4. Bundesministerien *Federal Ministries*

Support of Governmental Regulations

Bei einer erneuten starken Ausbreitung des Coronavirus fände ich die folgenden Maßnahmen ...

In case of another rapid spread of the coronavirus I think that the following measures are...

1. Quarantäne für Infizierte *quarantine for those infected*
2. Schließung von Schulen *school closures*
3. Absage von Großveranstaltungen *cancellation of big events*
4. Verbot von Großveranstaltungen *prohibition of big events*
5. Einreisende aus Risikogebieten unter Quarantäne stellen *putting people entering from risk areas into quarantine*
6. Schließung von Grenzen für Personen *closing borders for people*
7. Schließung von Restaurants *closure of restaurants*
8. Schließung von Kleidungsgeschäften *closure of clothing stores*
9. Regelungen für den Abstand zwischen Personen in Lebensmittelgeschäften *rules about the distance between people in food stores*
10. persönliche Freiheitsrechte einschränken *restricting personal liberty rights*
11. Verbot, das Haus ohne triftigen Grund zu verlassen *prohibition to leave the house without good reason*

Adoption of Physical Distancing

Bei einer erneuten starken Ausbreitung des Coronavirus: Welche der folgenden Maßnahmen würden Sie (teilweise) unternehmen, um die Ansteckung mit dem und/oder die weitere Ausbreitung des Coronavirus zu verhindern?

In case of another rapid spread of the coronavirus: Which of the following measures would you (partially) take in order to prevent the infection with or spread of the novel Corona virus?

1. Sich nicht mit anderen Leuten treffen *Not meeting other people*
2. Einen Sicherheitsabstand von mindestens 1,5 m zu Fremden einhalten *Keeping a safety distance of at least 1.5 m*
3. Sich nicht in größeren Gruppen treffen *Do not meet in bigger groups of people*
4. Sich mit anderen Personen weniger in Innenräumen, sondern vor allem draußen treffen *Trying to meet other people outside instead of inside*
5. Andere Menschen nicht mit Umarmungen oder Handschlag begrüßen *Not greeting other people with a hug or handshake*
6. Leute nicht besuchen, die älter sind oder eine chronische Krankheit haben *Not visiting older people or people with a chronic disease*

Social Engagement

Bei einer erneuten starken Ausbreitung des Coronavirus: Wie wahrscheinlich wäre es, dass Sie sich sozial engagieren?

In case of another rapid spread of the coronavirus: How likely would you engage socially?

1. Gesprächsangebote für Mitglieder einer Risikogruppe *Offering to talk with people at risk*
2. Botengänge für Mitglieder einer Risikogruppe *Running errands for people at risk*
3. Hilfe in der Landwirtschaft *Helping in agriculture/farming*
4. Freiwillige Mitarbeit im Gesundheitssystem *Voluntary work in the health system*
5. Sich um die Kinder anderer Leute kümmern, damit diese arbeiten können *Taking care of others' children so that the parents can go to work.*
6. Geld spenden an Initiativen, die die Ausbreitung des neuen Virus bekämpfen bzw. Betroffenen helfen *Donating money to organizations fighting the spread of the virus or helping people affected by it.*
7. Andere finanziell unterstützen, die es aufgrund der finanziellen Folgen des aktuellen Ausbruchs des Coronavirus benötigen *Supporting other people financially which are struggling with the financial consequences of the coronavirus.*

Political COVID-19 Conspiracy

Bitte geben Sie an, inwiefern Sie den folgenden Aussagen über das Coronavirus zustimmen.

Please indicate your agreement with the following statements about the coronavirus.

1. Die Nachrichten übertreiben die Zahlen und die Gefahr von COVID-19. *News outlets are exaggerating numbers and danger of COVID-19.*
2. Mächtige Leute benutzen COVID-19, um der Wirtschaft zu schaden. *Powerful people are using COVID-19 in order to crash the economy.*

3. Die Panik über COVID-19 wird teilweise durch Menschen verursacht, die dem politischen System schaden wollen. *The panic about COVID-19 is partly caused by people trying to hurt the political system.*
4. Es ist wichtiger, an die Wirtschaft zu denken statt Panik zu machen wegen eines Virus, das letztlich nicht so gefährlich ist. *It is important to think about the economy rather than to panic about a virus that is not so dangerous after all.*
5. COVID-19 ist nur eine Möglichkeit der Regierung, die Macht der kleinen Leute einzuschränken. *COVID-19 is just one way of the government to restrict the power of the small people.*

Conspiracy Mentality (complete original scale by Imhoff & Bruder, 2014)

Plausability Check

Bitte denken Sie an den Text, den Sie ganz zu Anfang gelesen haben.

Please think about the text you read in the beginning of the study.

Wie plausibel fanden Sie den Text? ... überhaupt nicht (1) vs. voll und ganz (7)

How plausible was the text for you? ... not at all (1) vs. totally (7)

Wie sehr würden Sie den Aussagen aus dem Text zustimmen? ... überhaupt nicht (1) vs. voll und ganz (7)

How much would you agree with the statements in the text? ... not at all (1) vs. totally (7)

Demographics

Debriefing

Debriefing Question

Für wie wahrscheinlich halten Sie es, dass die XXX Stiftung mit dem RKI und der Bundesregierung zusammenarbeitet, um digitale Patientenakten zu erstellen und davon

gegebenenfalls zu profitieren? ... ausschließen (0%) vs. absolut wahrscheinlich (100%) *How likely do you think it is that the XXX Foundation works together with the RKI and the Federal government to create digital patient records for their own profit? ... not possible (0%) vs. very likely (100%)*

Study 3: Longitudinal Study

Preregistrations are openly available at:

<https://aspredicted.org/blind.php?x=47ip9y> (t1)

<https://aspredicted.org/blind.php?x=es8m7f> (t2)

Details on participants and procedure

At t1, six participants were excluded for not submitting their data. At t2, 14 people were excluded for not approving the use of their data either at t1 or t2. Two people were excluded due to the preregistered outlier analysis.

Participants taking part in the second survey and approving the use of their data did not differ from the final sample in respect to age, $t(543) = 0.241$, $p = .810$, 95%-CI = [-0.874; 1.118], $d = 0.02$; PCC, $t(544) = 1.451$, $p = .147$, 95%-CI = [-0.053; 0.355], $d = 0.14$; CM, $t(544) = 1.067$, $p = .286$, 95%-CI = [-0.102; 0.346], $d = 0.11$; support of governmental regulations, $t(544) = -1.624$, $p = .105$, 95%-CI = [-0.346; 0.033], $d = 0.16$; institutional trust, $t(544) = -1.621$, $p = .106$, 95%-CI = [-0.371; 0.035], $d = 0.16$; adoption of hygiene measures, $t(544) = -0.466$, $p = .641$, 95%-CI = [-6.555; 4.040], $d = 0.05$; adoption of physical distancing, $t(544) = -1.599$, $p = .110$, 95%-CI = [-8.047; 0.825], $d = 0.16$; social engagement, $t(542) = -0.818$, $p = .414$, 95%-CI = [-7.181; 2.960], $d = 0.08$, or adoption of complementary medicine, $t(544) = 1.268$, $p = .205$, 95%-CI = [-0.889; 4.131], $d = 0.13$. Participants taking part in the second survey were also more likely to be female ($\chi^2_{2, N=546} = 16.99$, $p < .001$, $\phi = .176$) than male or other, which is a difference that seemed less relevant to us.

Correlations between all measures

Table S12

Bivariate correlations between all scales of Study 3 (N = 546) at t1.

	China COVID- 19 Conspira cy	Conspira cy mentality	Adopti on of hygiene measur es	Adoptio n of physical distanci ng	Institution al trust	Support of governmen tal regulations	Social engageme nt	Adoption of complementa ry medicine
Political COVID-19 Conspiracy	.50***	.51***	.05	-.30***	-.39***	-.33***	-.09*	.20***
China COVID-19 Conspiracy		.58***	.09*	-.16***	-.24***	-.05	-.05	.19***
Conspiracy mentality			.07	-.17***	-.30***	-.11*	-.01	.22***
Adoption of hygiene measures				.14**	.03	.08	.11*	.42***
Adoptin of physical distancing					.21***	.29***	.06	-.08
Institutiona l trust						.33***	.18***	-.14**
Support of governmen tal regulations							.11*	-.07
Social engagemen t								.11**

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Deviations from the preregistration

Support of governmental regulations was preregistered in t1 as only three items that seemed as specifically extreme examples of governmental regulations, namely restrictions of personal liberties, restrictions on leaving the house or news embargos in order to avoid panic.

However, correlation and scale reliability between those three items was low ($\alpha = .51$) and the item-total correlation for one item about news embargoes was very low ($r = .10$). Additionally, the item in question – about the news embargo – was ambiguously worded, which we only noted after data collection. Thus, this item was excluded from the analyses. Instead of using the resulting two item measure, we decided to make use of all items regarding governmental regulation (except for the uncorrelated news embargo item). This led to an 11-item scale with an internal consistency of $\alpha = .91$. Consequently, we preregistered the full 11-item scale at t2. However, for full transparency, we report the analysis using the two correlated preregistered items below in table S13. Results were the same when taking the two-item measure.

Institutional trust: We also preregistered a two-item measure (consisting of only the two items asking about federal ministries) at t1 but assessed it with four items (additionally including two German institutions that work closely together with the government). Since the four-item measure had a good reliability ($\alpha = .87$), and since we administered and preregistered the same four items at t2 as well as in the experimental study, we here report the analyses at t1 with the four-item-measure. Again, we report the analysis using the two-item measure below in table S13. Overall, the results for the four items measure were the same as taking the two-item measure.

Table S13

Bivariate correlations between the Political COVID-19 Conspiracy (PCC) scale as well as Conspiracy Mentality (CM) scale for Support of governmental regulations (2 item version) and Institutional trust (2 item version)

	PCC	CM
	t1	t1

	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Institutional trust (2 items)	-.33	<.001	-.28	<.001
Support of governmental regulations (2 items)	-.29	<.001	-.09	.041

Adoption of Hygiene Measures and Physical Distancing: The three items about adoption of hygiene measures were assessed at t1 together in a block with one item about adoption of physical distancing and complementary medicine practice, but not preregistered at t1 as a scale. Later analyses revealed that relations between PCC and adoption of the three hygiene measures were different from PCC and the one item regarding adoption of physical distancing. Thus, for t2, we extended both scales, assessing adoption of hygiene measures with five items (analyses were preregistered as exploratory) and adoption of physical distancing with six items.

Complementary Medicine: For t2, we preregistered to assess behaviors related to complementary medicine with 9 items for exploratory analyses. However, one item from this scale (about mask wearing) was later excluded as mask wearing became a recommended behavior, whereas the initial communication indicated that face masks are not useful. We thus reported results with 8 items.

Additional preregistered analyses

China COVID-19 Conspiracy: Originally, we also included a *China COVID-19 Conspiracy* consisting of five items suggesting that China itself developed the coronavirus (e.g. “Covid-19 was developed by the Chinese as a bioweapon”), based on news articles (Gogarty & Hagle, 2020; Stevenson, 2020; Barclay, 2020) and tweets (Cotton, 2020; Mitchell, 2020). The reverse-coded item no. 3 later was excluded because of low scale reliability. For space reasons, we only report the results for this scale very briefly in the discussion of Study 3 (main text).

Correlations between the China COVID-19 Conspiracy (Items 1, 2, 4, & 5) and measures are reported in table S12 above.

Mediation analyses: In the preregistration we also hypothesized that the effects of PCC on support of governmental regulations, adoption of physical distancing and social engagement are mediated by trust in public institutions, as this mediation was found cross-sectionally in study 1. Analyses using the longitudinal design showed, however, that this is not the case, and that the cross-sectional effects found in study 1 indeed should be treated with caution. Below in table S14 are the results of the tests conducted using PROCESS (Hayes, 2013) V.3.3, Model 4. For each test, trust at t2 was analyzed as mediator, while trust at t1 was entered as covariate.

Longitudinal analyses with PCC and CM as predictor: We expected that the effects of PCC on institutional trust, support of governmental regulations, adoption of physical distancing, and social engagement even hold when controlling for a general conspiracy mentality (CM). However, when entering both, PCC and CM, at t1 as predictors, conspiracy mentality significantly predicted support for governmental regulations and institutional trust at t2 (see Table S15). As in the analyses with PCC as only predictor, conspirational thinking at t1 did not predict adoption of physical distancing and social engagement.

Table S14

Indirect effects of the Political COVID-19 Conspiracy via institutional trust on support of governmental regulations, adoption of physical distancing and social engagement using PROCESS (Model 4)

	Political COVID-19 Conspiracy (t1)	
	<i>B</i>	95%-CI
Support of governmental regulations (t2)	B = -0.68	CI = [-0.160; 0.015]

Adoption of physical distancing (t2)	B = -0.39	CI = [-1.428; 0.264]
Social engagement (t2)	B = <-0.01	CI = [-0.022; 0.006]

Table S15

Longitudinal analysis with PCC and CM as predictor in the longitudinal Study (N = 134).

	PCC (t1)				CM (t1)				Outcome (t1)			
	B	SE	p	95%-CI	B	SE	p	95%-CI	B	SE	p	95%-CI
Institutional trust	-0.07	0.09	.411	[-0.248; 0.102]	-0.15	0.07	.047	[-0.290; -0.002]	0.56	0.07	<.001	[0.417; 0.710]
Support of governmental regulation	-0.01	0.10	.922	[-0.207; 0.188]	-0.26	0.08	.002	[-0.418; -0.097]	0.41	0.10	<.000	[0.211; 0.616]
Adoption of physical distancing	-1.79	1.58	.258	[-4.915; 1.329]	-0.18	1.31	.891	[-2.763; 2.404]	0.14	0.06	.020	[0.023; 0.264]
Adoption of hygiene measures	-0.10	2.28	.965	[-4.603; 4.401]	0.16	1.90	.935	[-3.604; 3.914]	0.46	0.06	<.001	[0.329; 0.588]
Social engagement	0.02	0.03	.540	[-0.037; 0.071]	-0.03	0.02	.265	[-0.071; 0.020]	0.01	<0.01	<.001	[0.004; 0.007]
Adoption of complementary medicine	1.64	1.49	.271	[-1.296; 4.578]	1.08	1.31	.414	[-1.527; 3.682]	0.67	0.09	<.001	[0.502; 0.847]

Analyses with non-extended measures: For three concepts (adoption of physical distancing; adoption of hygiene measures, social engagement), scales have been extended for t2 from one to six items (adoption of physical distancing), three to five items (adoption of hygiene measures) and from four to seven items (social engagement) in order to increase scale reliability. For transparency, we also preregistered to conduct and report the longitudinal analyses using the non-extended measures, i.e. using the exact same item(s) as at t1.

Table S16

Internal consistency, mean, and standard deviation for the non-extended scales at t2 (N = 134) in Study 3

Variable (possible response range)	α	$M (SD)$
Adoption of physical distancing, 1 item (1-100)	-	78.69 (24.48)
Adoption of hygiene measures, non-extended (1-100)	.55	60.47 (26.08)
Social engagement, non-extended (1-3)	.33	1.82 (0.33)

Table S17

Multiple regression analyses in rows with Political COVID-19 Conspiracy (PCC) (t1) and criterion (t1) as predictors of the non-extended measures at t2 (N = 134) in Study 3

	PCC (t1)				Criterion (t1)			
	B	SE	p	95%-CI	B	SE	p	95%-CI
Adoption of physical distancing (t2)	-2.09	2.33	.371	[-6.706; 2.517]	0.31	0.10	.003	[0.108; 0.519]
Adoption of hygiene measures (t2)	-0.33	2.17	.879	[-4.623; 3.963]	0.51	0.07	<.001	[0.363; 0.651]
Social engagement (t2)	.02	0.03	.562	[-0.039; 0.071]	0.01	0.00	<.001	[0.004; 0.008]

Table S18

Multiple regression analyses in rows with Conspiracy Mentality (CM) (t1) and criterion (t1) as predictors of the non-extended measures at t2 (N = 134) in Study 3

	CM (t1)				Criterion (t1)			
	B	SE	p	95%-CI	B	SE	p	95%-CI

Adoption of physical distancing (t2)	-3.64	1.91	.059	[-7.415; 0.137]	0.30	0.10	.004	[0.100; 0.503]
Adoption of hygiene measures (t2)	0.20	1.81	.912	[-3.383; 3.786]	0.51	0.07	<.001	[0.362; 0.650]
Social engagement (t2)	-0.01	0.02	.552	[-0.060; 0.032]	0.01	0.00	<.001	[0.004; 0.008]

Research Materials

All assessed items are reported here. In case scales changed between t1 and t2, changes are reported below. We first display the original wording and then the English translation in italics.

Support of Governmental Regulations

In der aktuellen Situation finde (t1)/Bei einer erneuten starken Ausbreitung des Coronavirus fände (t2) ich die folgenden Maßnahmen ... völlig angemessen vs. absolut unangemessen
In the current situation (t1)/ In case of another rapid spread of the coronavirus (t2) I think that the following measures are...absolutely appropriate vs. absolutely inappropriate

1. Quarantäne für Infizierte *quarantine for those infected*
2. Schließung von Schulen *school closures*
3. Absage von Großveranstaltungen *cancellation of big events*
4. Verbot von Großveranstaltungen *prohibition of big events*
5. Einreisende aus Risikogebieten unter Quarantäne stellen *putting people entering from risk areas into quarantine*
6. Schließung von Grenzen für Personen *closing borders for people*
7. Schließung von Restaurants *closure of restaurants*
8. Schließung von Kleidungsgeschäften *closure of clothing stores*
9. Regelungen für den Abstand zwischen Personen in Lebensmittelgeschäften *rules about the distance between people in food stores*
10. persönliche Freiheitsrechte einschränken *restricting personal liberty rights*
11. Verbot, das Haus ohne triftigen Grund zu verlassen *prohibition to leave the house without good reason*
12. Nachrichtensperre zu COVID-19 zur Verbreitung von Panik in der Bevölkerung *news embargo on COVID-19 to avoid panic in the population* [Item was excluded from analyses at t1 and not part of the survey at t2]

Institutional Trust

Wie sehr vertrauen Sie den unten genannten Personen und Organisationen, dass sie mit dem Coronavirus gut umgehen

How much do you trust the people and organizations below to handle the situation with the Coronavirus well?

1. Robert-Koch-Institut [German institute for the identification, surveillance and prevention of diseases]
2. Bundeszentrale für gesundheitliche Aufklärung *Federal Centre for Health Education*
3. Länderministerien *State Ministries*
4. Bundesministerien *Federal Ministries*

Media Use

The following items were measured only at t1, but not included in any analyses.

Wie oft nutzen Sie die folgenden Quellen, um sich über das Coronavirus zu informieren? [Nie vs. Sehr oft]

How often do you use the following source in order to inform yourself about the Corona virus? [Never vs. Very often]

1. Öffentlich-rechtliche Fernsehsender *public television stations*
2. Private Fernsehsender *private television stations*
3. (Online) Zeitungen *(online) journals*
4. Soziale Netzwerke *social media*
5. Gespräche mit Familie und Freunden *conversations with family and friends*

Adoption of Hygiene Measures

Welche der folgenden Maßnahmen haben Sie bereits unternommen, um die Ansteckung mit dem und/oder Ausbreitung des neuartigen Coronavirus zu verhindern?

Bitte geben Sie hier nur an, welche Maßnahmen Sie unternommen haben, um die Ausbreitung des Virus zu verhindern, nicht Tätigkeiten, die Sie in Ihrem Alltag auch umsetzen.

Which of the following measures have you taken in order to prevent the infection with or spread of the novel Corona virus?

Please only indicate those measures, that you took in order to prevent the spread of the virus, not actions that you take in everyday life.

1. Häufiger Hände waschen *Washing hands more frequently*
2. Mund beim Husten bedecken *Covering the mouth when coughing*
3. Grippeimpfung *flu vaccination*
[This item was measured only at t1, but not included in the final scale as recommendations from official entities about flu vaccinations changed in the course of events]

4. Augen, Nase und Mund mit ungewaschenen Händen nicht berühren *Not touching one's eyes, nose or mouth with unclean hands*

Additional items at t2:

5. Gegenstände vermeiden, die von vielen Menschen berührt werden (z.B. Haltegriffe oder Bargeld) *Avoiding objects that are touched by many people (e.g. handles in public transport or cash)*
6. Hände mindestens 20s lang waschen *Washing your hands at least 20s*

Adoption of Physical Distancing

The following items were presented in the preceding block

1. Sich nicht mit anderen Leuten treffen *Not meeting other people*

Additional items at t2:

2. Einen Sicherheitsabstand von mindestens 1,5 m zu Fremden einhalten *Keeping a safety distance of at least 1,5 m*
3. Sich nicht in größeren Gruppen treffen *Do not meet in bigger groups of people*
4. Sich mit anderen Personen weniger in Innenräumen, sondern vor allem draußen treffen *Trying to meet other people outside instead of inside*
5. Andere Menschen nicht mit Umarmungen oder Handschlag begrüßen *Not greeting other people with a hug or handshake*
6. Leute nicht besuchen, die älter sind oder eine chronische Krankheit haben *Not visiting older people or people with a chronic disease*

Adoption of Complementary Medicine

The following items were presented in the preceding block

1. Ausgewogene Ernährung *Well-balanced nutrition*
2. Körperliches Training *Physical exercise*
3. Ingwer-Tee trinken *Drinking ginger-tea*
4. Nahrungsergänzungsmittel *Food supplements*
5. Vorsicht bei Postsendungen *Being careful when receiving mail*
6. Naturheilmittel *Plant remedies*
7. Verzicht auf Fleisch *Not eating meat*
8. Tragen von Gesichtsmasken *Wearing face masks* [item included in the questionnaire, but later excluded from the scale as wearing of face masks became recommended]
9. Einnahme homöopathischer Mittel *Taking homoeopathic drugs*

Wearing Masks

The following items were measured only at t2, but not included in any analyses.

Bitte geben Sie an, inwiefern Sie folgenden Aussagen über das Maskentragen zustimmen.

[Stimme überhaupt nicht zu vs. Stimme voll und ganz zu]

Please indicate your agreement with the following items about wearing masks. [Do not at all agree vs. Totally agree]

1. Das Maskentragen in Einkaufsläden finde ich sinnvoll. *I think it is useful to wear masks in shops.*
2. Das Maskentragen im öffentlichen Nahverkehr finde ich sinnvoll. *I think it is useful to wear masks in public transport.*
3. Ich bin grundsätzlich gegen das Tragen von Masken. (R) *I am generally against wearing masks.*
4. Das Tragen einer Maske schränkt meine Freiheit stark ein. (R) *Wearing masks limits my personal freedom.*
5. Ich trage eine Maske auch in Situationen, wo dies nicht explizit vorgeschrieben ist, aber ein Mindestabstand von 1,5m nicht eingehalten werden kann. *I am wearing a mask in situations where the minimum safety distance of 1,5 m cannot be guaranteed, even when it is not officially demanded.*
6. Ich trage eine Maske wirklich nur dann, wenn ich es muss. (R) *I am really only wearing mask when I have to.*

Social Engagement

Können Sie sich vorstellen, sich während der Corona Pandemie sozial zu engagieren, z.B. durch...

Could you imagine being socially engaged during the Corona Pandemic, for example through...

1. Gesprächsangebote für Mitglieder einer Risikogruppe *Offering to talk with people at risk*
2. Botengänge für Mitglieder einer Risikogruppe *Running errands for people at risk*
3. Hilfe in der Landwirtschaft *Helping in agriculture/farming*
4. Freiwillige Mitarbeit im Gesundheitssystem *Voluntary work in the health system*

Additional items at t2:

5. Sich um die Kinder anderer Leute kümmern, damit diese arbeiten können *Taking care of others' children so that the parents can go to work.*
6. Geld spenden an Initiativen, die die Ausbreitung des neuen Virus bekämpfen bzw. Betroffenen helfen *Donating money to organizations fighting the spread of the virus or helping people affected by it.*
7. Andere finanziell unterstützen, die es aufgrund der finanziellen Folgen des aktuellen Ausbruchs des Coronavirus benötigen *Supporting other people financially which are struggling with the financial consequences of the coronavirus.*

Risk perception

The following items were measured only at t1, but not included in any analyses.

1. Als wie anfällig schätzen Sie sich für eine Infektion mit dem neuartigen Coronavirus ein? [überhaupt nicht anfällig vs. sehr anfällig] *How vulnerable do you think you are to be infected with the new coronavirus? [not vulnerable at all vs. very vulnerable]*
2. Wie hoch schätzen Sie Ihre Wahrscheinlichkeit ein, dass Sie sich mit dem neuartigen Coronavirus infizieren? [extrem unwahrscheinlich vs. extrem wahrscheinlich] *How likely do you think it is that you will become infected with the new corona virus? [extremely unlikely vs. extremely likely]*
3. Wie gefährlich schätzen Sie eine Infektion mit dem neuartigen Coronavirus für sich selbst ein? [völlig harmlos vs. extrem gefährlich] *How dangerous do you think an infection with the new corona virus would be for yourself? [completely harmless vs. extremely dangerous]*

Media Hype

The following item were measured only at t1, but not included in any analyses.

Das neuartige Virus ist für mich... [nicht medial aufgeblasen vs. medial aufgeblasen] *For me, the novel virus is ... [not exaggerated by the media vs. exaggerated by the media]*

Vaccination

The following item was measured only at t2, but not included in any analyses.

1. Ich würde mich gegen das Coronavirus impfen lassen, wenn eine Impfung verfügbar ist. [Stimme überhaupt nicht zu vs. Stimme voll und ganz zu] *I would get vaccinated against the coronavirus once/in case a vaccine becomes available. [Do not agree at all vs. Totally agree]*

Political COVID-19 Conspiracy

Bitte geben Sie an, inwiefern Sie den folgenden Aussagen über das Coronavirus zustimmen.
Please indicate your agreement with the following statements about the coronavirus.

1. Die Nachrichten übertreiben die Zahlen und die Gefahr von COVID-19. *News outlets are exaggerating numbers and danger of COVID-19.*
2. Mächtige Leute benutzen COVID-19, um der Wirtschaft zu schaden. *Powerful people are using COVID-19 in order to crash the economy.*
3. Die Panik über COVID-19 wird teilweise durch Menschen verursacht, die dem politischen System schaden wollen. *The panic about COVID-19 is partly caused by people trying to hurt the political system.*

4. Es ist wichtiger, an die Wirtschaft zu denken statt Panik zu machen wegen eines Virus, das letztlich nicht so gefährlich ist. *It is important to think about the economy rather than to panic about a virus that is not so dangerous after all.*
5. COVID-19 ist nur eine Möglichkeit der Regierung, die Macht der kleinen Leute einzuschränken. *COVID-19 is just one way of the government to restrict the power of the small people.*

China COVID-19 Conspiracy

Bitte geben Sie an, inwiefern Sie den folgenden Aussagen über das Coronavirus zustimmen.
Please indicate your agreement with the following statements about the coronavirus.

1. Ich finde es sehr verdächtig, dass COVID-19 zum ersten Mal in der Region auftrat, wo Chinas einziges Level-4 Hochsicherheitslabor steht, in welchem die tödlichsten aller Viren untersucht werden. *I think it is highly suspicious that COVID-19 originated in the same city as Chinas only Level 4 laboratory, the highest-level classification of labs that study the deadliest viruses.*
2. Ich habe das Gefühl, dass die chinesische Regierung Informationen über den Ursprung von COVID-19 zurückhält. *I feel like the Chinese Government is hiding something about the origins of COVID-19.*
3. (R): Es ist eindeutig so, dass COVID-19 zum ersten Mal in der Tierwelt auftrat. [This item was later removed due to low item-scale-correlation and therefore also not included at t2] *It is perfectly clear that COVID-19 originated in wildlife.*
4. Chinesischen Laboren kann man im Umgang mit tödlichen Substanzen nicht trauen. *Chinese labs' handling with deadly substances can't be trusted.*
5. COVID-19 wurde von Chinesen als Biowaffe entwickelt. *COVID-19 was developed by the Chinese as a bioweapon.*

Agreement with statements from Widerstand2020 (German Protest Group)

The following items were measured only at t2, but not included in the analyses due to space limits.

1. Bill Gates ist der wahre Strippenzieher hinter den Geschehnissen rund um COVID-19. *Bill Gates is the puppet master controlling the events around COVID-19.*
2. Die Corona-Krise wird dafür benutzt, einen Impfzwang einzuführen. *The corona-crisis is just a cover to implement compulsory vaccination.*
3. Die anhaltende Einschränkung der Grundrechte ist Ausdruck davon, dass wir auf eine Diktatur zusteuern. *The continuing restriction of fundamental rights shows that we are heading towards a dictatorship.*
4. Der Lockdown Mitte März wäre nicht nötig gewesen, um die Verbreitung des Virus einzudämmen. *The lockdown mid-March would not have been necessary to curb the spread of the virus.*

5. Es sollte ein Notstandsparlament aus bisher nicht politisch aktiven BürgerInnen errichtet werden, welches politische Entscheidungen anstelle der zur Zeit im Parlament sitzenden Abgeordneten bestimmt. *An emergency parliament should be formed out of citizens who have not been politically active so far, which determines political decisions instead of the deputies currently sitting in parliament.*

Conspiracy Mentality (complete original scale by Imhoff & Bruder, 2014)

Additional conspiracy items

At t1, we also included some items about conspiracy theories taken from Bruder et al. (2013, see also German COVID-19 Snapshot Monitoring; Betsch et al., 2020) directly after the conspiracy mentality scale. However, items were not analyzed.

1. Politiker erwähnen meistens nicht die wahren Motive für ihre Entscheidungen. [trifft nicht zu vs. trifft zu] *Politicians most of the time don't mention the real motives for their decisions. [Disagree vs. Agree]*
2. Die Regierung überwacht alle Bürger sehr genau. [trifft nicht zu vs. trifft zu] *The government monitors all citizens very closely. [Disagree vs. Agree]*
3. Ereignisse, die oberflächlich betrachtet keinen Zusammenhang ergeben, sind oft das Ergebnis geheimer Aktivitäten. [trifft nicht zu vs. trifft zu] *Events that seem unrelated on the surface are often the result of secret activities. [Disagree vs. Agree]*

After the reported items of t1, the following concepts were assessed:

Norm perception

Identification

Motivations for adhering to guidelines

After the reported items at t2, data for three additional unrelated studies were assessed with the following concepts:

Identification

Attitudes about a tracing app

Purpose of tracing app

Competence evaluations

Attitudes about refugees

Trust in politicians

Efficacy beliefs

Writing task (Promotion/Prevention Focus)

Study 1-3: Moderation of effects by gender

One reviewer made us aware that some of the effects of PCC on the outcomes (Institutional trust, Support of governmental regulations, Adoption of physical distancing, Social engagement) are potentially moderated by gender. We again tested for such a moderation: In four out of 16 regressions, the interaction between PCC and gender was significant. We report correlations below.

Table S19

Gender Moderations Study 1

		Support of governmental regulations			Adoption of physical distancing		
		<i>N</i>	<i>r</i>	<i>p</i>	<i>N</i>	<i>r</i>	<i>p</i>
female	PCC	200	-.42	<.001	211	-.22	.001
male		191	-.20	.007	203	-.05	.481

Table S20

Gender Moderations Study 3

		Support of governmental regulations			Social Engagement		
		<i>N</i>	<i>r</i>	<i>p</i>	<i>N</i>	<i>r</i>	<i>p</i>
female	PCC	380	-.40	<.001	378	-.16	.002
male		164	-.18	.022	164	.07	.396

References

(please note that we only list references not included in the main text here)

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