

The welfare state in really hard times: Political trust and satisfaction with the German healthcare system during the COVID-19 pandemic

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Abstract

The COVID-19 pandemic represents an enormous challenge for healthcare systems around the globe. Using original panel survey data for the case of Germany, this article studies how specific trust in the healthcare system to cope with this crisis has evolved during the course of the pandemic and whether this specific form of trust is associated with general political trust. The article finds strong evidence for a positive and robust association between generalized political trust and performance perceptions regarding the efficiency and fairness of the crisis response as well as individual treatment conditions. The article also shows that specific trust in healthcare remained relatively stable throughout 2020, but declined significantly in the spring of 2021.

Keywords

COVID-19 pandemic, healthcare attitudes, political trust, performance perceptions, inequality

Introduction

Germany is a country that is often regarded by international observers as having responded well to the Coronavirus crisis, in particular in the early phase of the pandemic in the spring of 2020.¹ Germany's rather successful response is, for instance, evident in its overall lower number of cases and, in particular, the lower number of fatalities relative to population size.² Unlike in other countries, the capacity limit of German hospitals was never exceeded. Hence, it could be expected that public trust in the performance of the healthcare system should be relatively high. However, the vaccination campaign got off to a slow start at the beginning of 2021 and infection rates increased as policymakers squabbled over whether to

ease or intensify the lockdown measures.³ Even though these debates were only tangentially about the crisis performance of the healthcare system in particular, they might have eroded public trust in healthcare nevertheless.

Analysing novel and original survey data collected in three waves (May and November 2020 as well as May 2021), this article tackles these issues head-on. From a more empirical perspective, it

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addresses the following questions: How confident is the German resident population in the ability of the healthcare system to deal with the COVID-19 crisis, both with regard to efficiency and equality concerns, and how has citizens' satisfaction changed over the course of the pandemic so far? Do German residents perceive inequalities in treatment conditions and do they have faith that they themselves will get the treatment they need? How is satisfaction with the healthcare system related to generalized political trust? In addressing these questions, this article adds to a small, but strongly growing set of articles exploring the political, economic and societal consequences of the COVID-19 pandemic (Ares et al., 2021; Baute and De Ruijter, 2021; Bol et al., 2021; Breznau, 2021; Diehl and Wolter, 2021; Grasso et al., 2021; Naumann et al., 2020; Reeskens et al., 2021). Even though some articles have addressed welfare state issues (Ares et al., 2021; Baute and De Ruijter, 2021; Breznau, 2021), there is so far no study that has explored the impact of the pandemic on healthcare attitudes, to the best of my knowledge.

Beyond its empirical contribution, this article contributes to a broader theoretical debate on the role of political trust for welfare state support in times of existential crises. One of the core findings of the article is that general political trust strongly determines citizens' perceptions regarding the crisis performance of the healthcare system, showing that generalized trust can be an important resource for policymakers to rely on in order to maintain confidence in the overall functioning and fairness of the system. This is particularly important during the COVID-19 pandemic as the successful management of the crisis to a large extent depends on the voluntary compliance of citizens. In line with this, a second major finding of the article is that the overall confidence of the German resident population in the system's ability to deal with the crisis remained relatively high and stable throughout the year 2020. However, I also find indications of eroding performance perceptions in the more recent phase of the pandemic (i.e. in the spring of 2021) with important differences across various dimensions of specific trust in healthcare. Recently, performance perceptions regarding the overall efficiency in the handling of the crisis have been declining, whereas the

individuals' confidence in getting the necessary treatment in case of an infection has remained relatively stable throughout.

Trust and the welfare state

There is a large (and still growing) literature on the complex relationship between trust and the welfare state, which can only be reviewed briefly here. The relationship is complex, because it defies simplistic conceptions of uni-directional causality between trust and welfare state institutions, instead emphasizing reciprocal feedback effects (Haugsgjerd and Kumlin, 2020). Early scholarship in this field (Rothstein, 1998; for recent reviews, see Kumlin et al., 2017; Kumlin, 2021) primarily focuses on how universalist welfare state institutions are more likely to promote political trust among citizens compared to particularistic institutions and policies (Rothstein, 1998). Moreover, it has been shown that concrete interactions with the welfare state bureaucracy (Soss and Schram, 2007) as well as more specific perceptions of the performance of welfare state institutions and policies matter more for political trust than broader institutional welfare regimes (Christensen and Laergreid, 2005; Edlund, 2006; Kumlin, 2013; Svallfors, 2002).

Reversing the analytical perspective, much scholarship has looked at how political trust in turn may influence and feed back onto the political underpinnings of the welfare state. Put simply, if citizens generally trust the government and perceive the welfare state to do a decent job in handling social issues, their willingness to pay in terms of taxes and their general support for the welfare state is likely to increase as well (Hetherington, 2005; Roosma et al., 2014; Rothstein et al., 2012; Toikko and Rantanen, 2017). However, the opposite dynamic may also occur when citizen dissatisfaction with the performance of the welfare state fuels political distrust in a reciprocal 'downbound spiral' (Haugsgjerd and Kumlin, 2020). Furthermore, trust as a political resource may matter particularly in times of uncertainty. As Rudolph and Evans (2005) argue, trust matters most when citizens are asked to make sacrifices, either in terms of material costs or in terms of 'ideological costs', that is, supporting policies that

they would normally oppose (see also [Gabriel and Trüdinger, 2011](#); [Hetherington, 2005](#); [Rudolph, 2009](#) for similar arguments). Thus, in particular in existential crises such as the COVID-19 pandemic, high levels of trust in political institutions may significantly expand the range of feasible options for policymakers to implement policies that impose short-term costs, while contributing to problem solution in the long run.

So far, I have reviewed scholarship on trust and the welfare state broadly defined. Regarding attitudes towards healthcare policy more specifically, the influential work of [Jensen \(2011; 2012; Jensen and Naumann, 2016; Jensen and Petersen, 2017\)](#) has shown that the area of healthcare is qualitatively different from other areas of the welfare state as he finds strong overall levels of support for healthcare provision and less conflict between different parts of society (see [Wendt et al., 2011](#), for a similar finding). Furthermore, and as a consequence of this, individual factors that are commonly found to determine welfare state attitudes such as self-interest related variables and partisan ideology matter less in the case of healthcare (see [Missinne et al., 2013; Naumann, 2014](#)), and [Wendt et al. \(2010\)](#), in contrast, find more evidence for cleavages in attitudes related to self-interest and ideology. [Lynch and Gollust \(2010\)](#), using survey data from the US, argue that individual beliefs and perceptions of the fairness of the healthcare system matter more as determinants of policy preferences than indicators of self-interest – a finding that is most relevant in the context of this article. In a string of articles that focus on Eastern European countries, [Habibov and co-authors](#) have shown that prevailing levels of institutional and social trust as well as individual perceptions of the quality of healthcare are systematically related to willingness to pay more taxes for healthcare provision ([Habibov et al., 2017, 2018a, 2018b, 2019](#)).

Other studies have found evidence for policy feedback effects. [Wendt et al. \(2010\)](#), for instance, show that the particular institutional set-up of public healthcare systems is systematically associated with different levels of satisfaction among citizens. In a related study ([Wendt et al., 2011: 168–169](#)), the authors find evidence for self-accelerating feedback in the case of healthcare as citizens in generously

funded systems continue to support and demand more investments in that area. Other studies have confirmed that the institutional set-up of the healthcare shapes attitudes and preferences at the micro level ([Immergut and Schneider, 2020; Jordan, 2010; Kikuzawa et al., 2008; Larsen, 2020](#)). More recently, [Wendt and Naumann \(2018\)](#) have shown that both among citizens and healthcare professionals (doctors), there is little demand for large-scale changes across a range of advanced rich democracies, which can be taken as indicative evidence for self-reinforcing feedback effects. This also applies to the dominant division of labour between public and private provision: in countries with a strong private component in the healthcare system, there is less support for public provision (and potentially the welfare state more broadly in the long term) ([Cammatt et al., 2016; Zhu and Lipsmeyer, 2015](#)).

Regarding the specific research question of this article, there are two studies that are of particular interest as they are concerned with the impact of large-scale health crises on individual-level preferences.⁴ Using the outbreak of an influenza epidemic in the middle of the field period of the 2008 European Social Survey (ESS) as a natural experiment, [Jensen and Naumann \(2016\)](#) find that this real, but compared to the COVID-19 pandemic quite limited, outbreak led to a decline of support for government involvement in the provision of healthcare, in particular among right-leaning individuals. The authors explain this finding by pointing to the outbreak as a ‘signal of underperformance’ ([Jensen and Naumann, 2016: 699](#)) which lowers support in particular among those who had been sceptical of public provision before. A different finding is provided by [Albertson and Gadarian \(2015\)](#) who study the impact of anxiety – triggered by large-scale crises including, but also going beyond health crises – on political trust and individual policy preferences. Using a number of survey experiments involving simulated and real health crises (such as the outbreak of the H1N1 influenza in 2009), they find that large-scale crises increase rather than lower political trust, in particular trust in non-partisan experts, and also enhance support for ‘protective’ policies, that is, measures that are geared at tackling the crisis even if these policies involve significant restrictions as is the

case, for instance, with quarantining and social distancing measures. Thus, in a way and different from Jensen and Naumann (2016), Albertson and Gadarian (2015) rather find evidence for a ‘rally-behind-the-flag’ effect as citizens become more trusting of elite actors in charge of handling the crisis. Taken together, the findings from these studies therefore point in different directions, suggesting that so far, still very little is known about the real-world impact of large-scale health crises. The limitations of these two existing studies are that they either use a relatively minor crisis (an influenza outbreak in Jensen and Naumann, 2016) or a treatment ‘shock’ simulated in a lab setting (Albertson and Gadarian, 2015). Thus, even though these studies can help to derive theoretical expectations (see next section), their real or simulated crises are clearly on a different scale compared to the COVID-19 pandemic.

The development of healthcare attitudes during the COVID-19 pandemic: Theoretical expectations

This section develops a number of theoretical expectations regarding the determinants of specific trust in the ability of the healthcare system to deal with the COVID-19 pandemic. The literature on trust and performance perceptions discussed in the previous section typically regards trust as something that entails a ‘forward-looking’ element (i.e. having faith in the future, see, for example, Uslaner and Brown, 2005), whereas performance perceptions tend to be ‘backward-looking’ as citizens base their assessment on experience, that is, past performance. Performance perceptions of the healthcare system during the COVID-19 pandemic contain a bit of both. They are based on the current (perceived) performance of the system in the face of a crisis, for which there are few, if any historical precedents, at least in the living memory of most citizens. Hence, perceptions of past performance can only serve as a broad orientation, even though they clearly matter for the present as well. Likewise, given the scope of the crisis, performance perceptions also contain a ‘forward-looking’ element as the crisis is still unfolding (in particular at the time, when the surveys for this article were done) and perceptions represent a certain willingness to put

faith in the future performance of the system for the remainder of the crisis. While being aware of these ambiguities in underlying concepts, I pragmatically refer to specific trust or performance perceptions interchangeably, when referring to healthcare and crisis-specific measures of trust/performance satisfaction and use the term general political trust when talking about ‘institutional’ trust, that is, trust in political actors and institutions. Given the historical and unprecedented scale of the COVID-19 pandemic, my theoretical expectations are necessarily exploratory to some degree.

To start, I look at performance perceptions of healthcare along three dimensions⁵: (1) perceptions of the *efficiency* of the healthcare system’s reaction to the crisis; (2) perceptions of the *fairness* in the manner the system has treated different population groups and (3) assessments regarding getting *individual treatment* in the case of a COVID-19 infection (which I also refer to as individualized trust in the healthcare system). The first two issues focus on individual perceptions regarding the overall performance of the healthcare system in terms of efficiency and fairness, the third issue is about an individualized dimension of trust in the functioning of the system (which might be different from perceptions regarding the system as a whole). Of course, it is important to point out here that these ‘popular’ perceptions are essentially laypersons’ assessments regarding the crisis response of the system and therefore may be different from expert assessments.⁶ Politically speaking, however, public perceptions regarding the crisis performance – signalling trust or distrust in the system’s and policymakers’ ability to deal with the crisis – are at least equally important in shaping the politics of the crisis response as expert assessments.

As indicated above, the analytical focus of his article is on the association between general political trust and performance perceptions of healthcare. The existing literature discussed above remains ambivalent regarding the causal direction between these two factors. On the one hand, generalized political trust is hypothesized to positively affect support for particular welfare state policies as citizens trust the government in doing a good job in making the best use of taxpayers’ money. On the other hand, positive experiences with the welfare state (i.e. positive

performance evaluations) are likely to contribute to building political trust in the long term.

Even though this article cannot completely disentangle this relationship in a strict causal sense (which may be neither empirically possible nor theoretically sensible, by the way), the COVID-19 pandemic offers a rather unique opportunity to study the association between general political trust on the one hand and more specific performance perceptions related to the immediate crises on the other. Citizens hold long-term general political orientations towards the political system, which – apparently – are even relatively stable during the COVID-19 pandemic (as [Bol et al. \(2021\)](#) have shown for a sample of western European countries and [Reeskens et al. \(2021\)](#) for the case of the Netherlands). Performance perceptions of healthcare, specifically when they are about the system's reaction to the COVID-19 pandemic, should be more malleable, depending on the changing circumstances of the crisis. Furthermore, given the historical uniqueness of the crisis, it is conceptually implausible to expect that crisis-related performance perceptions should have an impact on levels of political trust *before* the crisis started. However, it is not entirely unreasonable to argue that crisis-related performance perceptions are somehow related to pre-crisis individual experiences with the healthcare system, in spite of the uniqueness of the situation.

Therefore, it is plausible to hypothesize that individual generalized political trust is likely to shape the individuals' crisis-related performance perceptions to a significant degree. This way, generalized political trust becomes an important system-stabilizing resource, in particular in times of crisis when the effectiveness of the crisis response depends on the voluntary commitment to and contribution of citizens to the collective goal of getting the pandemic under control. Put differently, generalized political trust is expected to be associated with higher levels of specific trust in the efficiency and fairness of the system as well as a more confident assessment of getting the necessary treatment in case of a COVID-19 infection (individualized trust) (Hypothesis 1a). The analysis below will distinguish 'between' and 'within' effects of political trust, that is, differences in trust levels *between* different individuals as well as

changing levels of trust *within* individuals during the course of the pandemic. I expect both types of effects to be relevant (and positively signed), although the between-effect is likely to be larger given that it relates to long-held and stable general political orientations, which change little in the short term (hence there is a limited potential for 'within' effects) (Hypothesis 1b).

The second hypothesis centres on the overall impact of the crisis on performance perceptions of healthcare. As mentioned above, the literature on the impact of health crises on attitudes holds different expectations regarding this matter: [Jensen and Naumann \(2016\)](#) find a negative impact of a real health crisis (influenza outbreak) on support for government involvement in healthcare, whereas [Albertson and Gadarian \(2015\)](#) argue that health crises increase political trust. To make sense of these conflicting findings, I suggest adopting a more fine-grained perspective by looking at the variation of the impact of the crisis across different dimensions of specific trust. For instance, given the relatively successful management of the first Coronavirus wave in the spring of 2020, performance perceptions regarding the efficiency of the crisis response should have increased over time. In contrast, the strong increase of infections (and, relatedly, deaths) in the winter of 2020/21 and the above-mentioned slow start of the vaccination campaign may deflate the public's confidence in the ability of the system to deal with the crisis. Hence, I hypothesize that performance perceptions regarding the efficiency of the system's crisis response are strongly conditioned by the development of the pandemic (Hypothesis 2a).

Besides efficiency concerns, the crisis might affect fairness perceptions, that is, perceptions regarding preferential treatment of certain subgroups of the population. Here, the impact is less clear *ex ante*. On the one hand, given the dualized nature of German healthcare (see below), respondents might perceive the system as increasingly unfair as the crisis unfolds if, say, individuals with private healthcare plans receive better treatment compared to those enrolled in public schemes. On the other hand, in spite of the institutionalized difference between public and private healthcare providers in Germany, private providers are subject to heavy regulation.

Furthermore, public expectations regarding equal treatment are particularly high during crisis times so that essentially the difference between individuals on public or private insurance plans becomes unimportant during the pandemic. In sum, these effects could balance each other out so that I hypothesize no strong impact of the crisis on fairness perceptions (Hypothesis 2b).

Lastly, the analysis below studies individualized trust, that is, the individuals' confidence in getting the necessary treatment in case of a COVID-19 infection. Different from the other two factors, this dimension of healthcare performance focuses on the individual him-/herself. Given the fact that the German healthcare system has never reached its capacity limits, even at the high point of the pandemic in the winter of 2020/21, individual confidence in getting the necessary treatment in case of an infection should have remained relatively high throughout the crisis (Hypothesis 2c).

There are other factors besides generalized political trust that are likely to be associated with performance perceptions of the healthcare system. In line with literature on policy feedback and welfare state performance (Soss and Schram, 2007; Kumlin et al., 2017), a first plausible expectation is that previous concrete experiences with the healthcare system strongly affect present-day perceptions regarding the system's efficiency and fairness in handling the COVID-19 crisis. Individual variables, such as personal health status and age, in turn, influence the likelihood that someone will have had more intense and long-lasting experiences with healthcare. As the German healthcare system is generally regarded as performing well (see below for further data from previous opinion polls), it is likely that more intense interactions with the system (e.g. related to a bad personal health status or increasing age) increase trust in the handling of the crisis. Still, the opposite reaction is also possible, that is, that the sick and elderly are less likely to trust the system to handle the crisis, in particular if they perceive that the system has not helped them before.

Regarding self-interest related variables, it is well-known that health status is significantly related to material resources, that is, income and wealth (Lynch, 2019). Thus, high-income and highly

educated citizens, generally experiencing better health outcomes than lower-class citizens, could also be more confident that the healthcare system will be able to deal with the COVID-19 pandemic. In the German case, in particular, this class-related effect may be reinforced by the institutional set-up of the healthcare system, which allows high-income individuals to opt out of the public healthcare scheme in favour of private insurance (currently, about 10 percent of citizens are covered by private rather than public healthcare insurance, enjoying significantly better treatment conditions, see Gerlinger and Rosenbrock, 2018). Thus, higher socio-economic status – measured in terms of income and/or educational background – is likely to be correlated with more positive assessments of the performance of the healthcare system. Ideological cleavages may matter as well, although they should be more important for policy preferences (such as spending on healthcare) rather than performance perceptions and specific trust.

Empirical analysis

Introducing the data

The following analysis is based on original survey data that was collected in three waves during the years 2020 and 2021. The field period for the first wave was in May 2020, the second wave followed in November 2020 and the third one in May 2021. Even though the second and third waves added some new respondents to compensate for panel attrition, the following analysis only includes respondents who participated in all waves. Table A2 in the Appendix gives details on the number of observations per wave and the most important socio-economic characteristics, which reveals no major problems of panel attrition, except for a small decline of the share of young persons in the third wave. The survey was conducted by the survey firm Kantar, drawing on a large-scale online panel of the German resident population. Quota sampling and weights were used to achieve a representative national sample. The survey was part of a larger survey programme studying the implications of the COVID-19 pandemic for inequality, sponsored by the Excellence

Table 1. Question wordings and coding of response categories.

Question wording	Response categories
<p><i>Efficiency:</i> ‘If you think of how the German healthcare system is coping with the Coronavirus crisis, how efficient would you rate the crisis response?’</p>	11-point scale from 0 (‘very inefficient’) to 10 (‘very efficient’)
<p><i>Fairness:</i> ‘Do you think that doctors and nurses are giving privileged treatment to certain population groups or do you think that everybody is treated the same?’</p>	11-point scale from 0 (‘privileges for particular groups’) to 10 (‘everybody is treated the same’)
<p><i>Individual treatment conditions:</i> ‘Imagine you get infected by the Coronavirus. How much do you trust the healthcare system to provide the treatment that you need?’</p>	5-point scale from ‘very high’ to ‘very low’

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The survey contains a number of questions measuring performance perceptions and specific trust in the healthcare system across the three issues mentioned above: perceptions of system efficiency and fairness as well as subjective assessments of individual treatment conditions in the case of an infection. Table 1 contains the detailed wordings of the questions (own translations from German into English) and the coding of the response categories. As hinted at above, even though these issues are substantially related to some extent, the empirical bivariate correlations between them are low or moderate at best, reaching a maximum of 0.3 (see Table A3 in the Appendix). A factor analysis also does not reveal any latent underlying factor.

Furthermore, I include the following socioeconomic control variables: gender (1 = female), household net income measured in six categories, based on the known distribution of net household incomes in Germany (less than €900, €900–€1,500, €1,500–€2,600, €2,600–€4,000, €4,000–€6,000, more than €6,000), educational background in three categories (low = basic school leaving certificate (*Hauptschulabschluss*) or less; middle = middling school leaving certificate (*Realschulabschluss*); high = academic school leaving certificate (*Abitur*)),⁷ and age (operationalized in three categories: 18–39 years, 40–59 years, more than 60 years old). Individual ideological orientations are measured on the

commonly used left–right scale, where respondents are asked to place themselves on an 11-point scale from ‘left’ (0) to ‘right’ (10). Personal health status is measured by a self-reported (i.e. subjective) assessment of the respondent’s health on a 5-point scale from ‘I am doing very well health-wise’ to ‘I have a serious illness’, with intermediate categories in between. The analysis also includes a dummy variable asking if the respondent personally knows someone in their social network of family, friends and work-related connections who has been tested positively for COVID-19.

Finally, I include a measure of generalized political trust, which is a factor variable constructed from a number of items probing individual trust in the following actors or institution: the federal government, the federal parliament, the state government and political parties. Individual responses were coded on a 7-point scale from having ‘no trust at all’ (1) to ‘very trusting’ (7). A factor analysis revealed one dominating factor (Eigenvalue = 3.1; Cronbach’s $\alpha = 0.93$), which was used in the analysis as a measure of generalized political trust.

Descriptive statistics and changes over time

The analysis starts with descriptive statistics that show how performance perceptions of the healthcare system have changed over the course of the COVID-19 pandemic so far (responding to Hypothesis 2a, b and c). Table 2 presents summary measures of the

Table 2. Descriptive statistics and changes over time.

	May 2020	November 2020	May 2021
Efficiency perceptions, % holding a positive view (7–10 on scale from 0 to 10)	52.23	56.60	28.86
Fairness perceptions, % holding a positive view (7–10 on scale from 0 to 10)	59.37	57.90	52.98
Individualized trust in healthcare, % saying they have high or high very high trust in getting treatment they need	68.53	67.92	60.11
General political trust (average value of aggregated index on 0–10 scale)	4.08	4.03	3.39

performance evaluations as well as generalized political trust. Hypothesis 2a argued that efficiency perceptions would be strongly conditioned by the actual development of the COVID-19 pandemic. In line with this hypothesis, the German resident population assesses the performance of the system as somewhat above average and increasing over time as the crisis unfolds over the course of 2020, related to a significant improvement of the situation over the summer of that year. The third survey wave, however, indicates a significant decline in performance perceptions of the efficiency response. Even though this kind of survey data cannot ultimately show which aspects of the crisis response (the increasing infection rates, the slow start of the vaccination campaign or the squabbling of politicians) have led to an erosion of performance perceptions, it is likely that a number of these factors have mattered to some extent.

Again, broadly in line with Hypothesis 2b, respondents also have a rather positive view on the fairness of the system in handling the crisis (almost 60 percent hold a positive view on this issue at the beginning, which is a higher share of positive responses compared to efficiency perceptions). Fairness perceptions also decline somewhat over the course of the pandemic, but not as strongly as efficiency perceptions over the same time period. Finally, individualized trust in the healthcare system to provide the necessary treatment in the case of a COVID-19 infection is even higher on average (69 percent in the first wave). Only partly in line with Hypothesis 2c, individualized trust also declines somewhat as the crisis unfolds, but similar to fairness perceptions, the decline is by far not as steep as in the case of efficiency perceptions. Finally, Table 2 also

shows that the average level of general political trust has also declined somewhat in the most recent period, hinting at a possible relationship between political trust and performance perceptions, which I probe in greater detail in the next section.

In sum, this descriptive evidence shows that performance perceptions are to some extent influenced by the real development of the pandemic, in particular regarding efficiency perceptions. Fairness perceptions and individual trust in getting the necessary treatment in case of an infection remain relatively high throughout the crisis. In the online appendix, I include descriptive data on a number of performance measures from the International Social Survey Programme and the ESS, which document broad development trends in healthcare attitudes in Germany. This data indicates that by and large, the COVID-19 pandemic has not yet led to a dramatic change in attitudes towards healthcare.

Multivariate analysis

Next, I turn towards a more rigorous multivariate analysis of the determinants of trust in the healthcare system. For the items that are measured on an 11-point scale, simple linear OLS regression is employed. For the item on individualized trust, measured on a 5-point scale, I run linear probability (OLS) models, supplemented with ordered logit models in the robustness section (see below). Following recent advances in the methodological literature (Bartels, 2015; Bell and Jones, 2015; Fairbrother, 2014), random effects ‘within-between’ (REWB) models are used as primary model specification. This specification is particularly well suited for panel data, because it allows us to distinguish

Table 3. Determinants of performance perceptions in healthcare during the COVID-19 pandemic, REWB models.

	(1) Perceived efficiency	(2) Perceived fairness	(3) Individualized trust
Generalized political trust (between effect)	1.056*** (0.0482)	1.030*** (0.0584)	0.481*** (0.0201)
Generalized political trust (within effect)	0.698*** (0.0845)	0.500*** (0.0887)	0.175*** (0.0243)
Gender (female)	−0.00325 (0.0792)	−0.0317 (0.0964)	−0.0883*** (0.0332)
Net household income	0.00717 (0.0339)	0.111*** (0.0401)	0.0237* (0.0130)
Educational background	0.158*** (0.0534)	0.139** (0.0642)	0.0945*** (0.0216)
Age (40–59 years old)	0.202** (0.0976)	0.342*** (0.118)	0.0749* (0.0400)
Age (60+ years old)	0.472*** (0.106)	0.597*** (0.128)	0.0460 (0.0437)
Left–right ideology	0.0273 (0.0201)	−0.00459 (0.0236)	0.000272 (0.00757)
Personal health status	−0.0168 (0.0358)	−0.0479 (0.0414)	−0.0608*** (0.0129)
Know person with COVID-19	0.0974 (0.0827)	0.145 (0.0923)	0.0520* (0.0273)
Wave 2 dummy	0.350*** (0.0788)	−0.169** (0.0829)	−0.0350 (0.0228)
Wave 3 dummy	−0.936*** (0.0960)	−0.304*** (0.102)	−0.102*** (0.0284)
Constant	5.236*** (0.220)	5.814*** (0.260)	3.677*** (0.0853)
<i>Random effects parameters</i>			
SD level-2 (SE)	0.9883 (0.056)	1.526 (0.052)	0.6265 (0.0148)
SD level-1 (SE)	2.285 (0.030)	2.375 (0.031)	0.6423 (0.008)
ICC	0.3050	0.3913	0.4933
Individual observations	5046	5053	5052
Number of individuals	2186	2187	2187

¹Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

‘between effects’ from ‘within effects’.⁸ ‘Between effects’ measure the extent to which differences ‘between’ individual respondents in their professed level of generalized political trust are related to changing performance perceptions; ‘within effects’ capture the effect of over time changes in generalized trust ‘within’ individuals (i.e. from the first to the second to the third survey wave) on changing perceptions. Given the theoretical focus of this article and in order to avoid overly complex models, ‘between’ and ‘within’ effects are calculated only for generalized political trust and not the other independent variables. Therefore, the coefficient estimates for the latter are a combination of between and within effects, that is, a pooled effect.

Table 3 shows the results of the analysis of determinants of performance perceptions along the three dimensions as defined above. The first and most important observation is that generalized political

trust is strongly and positively associated with specific trust in the healthcare system across all three dimensions, confirming Hypothesis 1a. Furthermore, there is evidence for both ‘between’ and ‘within’ effects: thus, high-trusting individuals are more likely to express positive attitudes regarding system efficiency and fairness as well as individual treatment conditions compared to low-trusting individuals (between effect). Furthermore, individuals whose self-professed level of generalized political trust has increased over the course of the pandemic are also more likely to hold more positive views regarding the performance of the system (within effects). As hypothesized (Hypothesis 1b), the between effects are stronger in terms of effect size than the within effects, which is likely related to the fact that generalized political trust is a variable that changes relatively little within a short period of time, since it relates to long-held political beliefs and worldviews. Therefore, intrinsic differences in trust

between individuals at the onset of the crisis matter more than short-term changes. In terms of the explained share of variance as captured by the intraclass correlation coefficient (ICC), the analysis reveals that overall, a significant share of the variance in performance perceptions is captured by between-respondent effects (30.5 percent in the case of efficiency perceptions, 39.1 percent in the case of fairness perceptions, and even 49.3 percent in the case of individualized trust).

The effect sizes of the trust variables are relatively large. Since the ‘between’ effects variable is derived from the factor variable as defined above, a one-unit change in this variable roughly corresponds to a change of one standard deviation. Hence, a change of one standard deviation in generalized political trust between individual respondents is predicted to be associated with a change of about 1 point on the 11-point scale of efficiency and fairness perceptions (with a mean of 5.73 and SD of 2.8 in the former case, and a mean of 6.6 and SD of 3.0 in the latter case). This is roughly double the magnitude of the effect of being in the elderly age category (compared to young persons) – the next largest effect. In the case of the ‘within effects’ variable, a one-unit change corresponds to a change of three standard deviations. Hence a simulated change in predicted values similar to the previous one (an increase of one standard deviation) yields an estimated change of 0.2 points for efficiency perceptions and 0.18 for fairness perceptions, confirming that the ‘between effects’ of political trust are significantly larger than the ‘within effects’.

With regard to individualized trust, which is measured on a 5-point scale, a one-unit change in the ‘between effects’ variable of political trust is predicted to be associated with a change of 0.481 points, which represents a bit less than half of a standard deviation (SD = 1.04, mean = 3.75). Hence, relatively speaking, the effect size is larger than in the case of fairness and efficiency perceptions. The predicted change in individualized trust related to a change of one standard deviation in the ‘within effects’ variable is much smaller though: 0.058, which amounts to about 5 percent of a standard deviation in individualized trust. Again, the effect size of the ‘between’ effect is much larger than the ‘within’ effect.

Turning to the remaining variables, [Table 3](#) partly confirms the above expectations regarding the

importance of self-interest related variables for performance perceptions. High-income individuals are more likely to hold a positive view regarding the fairness of the system as well their individual treatment conditions. This may be related to the dualized nature of the German healthcare system, in which high-income individuals have access to better treatment conditions via private insurance. Being the beneficiaries of this system, they apparently are more likely to consider it fair as well. Educational background is positively associated with performance perceptions across the different dimensions as well, which might be due to the fact that highly educated citizens are more likely to appreciate the difficulties of handling the COVID-19 pandemic and therefore more likely to express their support. Somewhat surprisingly, the elderly also hold positive views on the performance of the system, in particular the overall efficiency and fairness of the crisis reaction. There is no elderly effect any more in the case of individualized trust. Similarly, citizens in bad health are not necessarily critical regarding the overall efficiency of the system, but significantly more worried about getting the necessary treatment in case of the COVID-19 infection.

The dummy variables for the second and third survey waves confirm the above descriptive finding that performance perceptions regarding the efficiency of the system have significantly improved from May until November, but then declined afterwards. The multivariate analysis also confirms the slight decrease in fairness perceptions over time and a decrease in individualized trust for the third survey wave. The remaining variables (gender, left–right ideology, knowing someone with a COVID-19 infection) do not have a significant effect on performance perceptions of healthcare. In the appendix, I run a number of further robustness tests (using ordered logit instead of logit models for Model 3 of [Table 3](#) as well as more traditional fixed effects (FE) and first difference models). The main findings of the analysis remain robust.

Summary discussion and conclusion

This article is a first analysis of how healthcare attitudes, in particular performance perceptions of the system’s ability to cope with the crisis, have

developed during the COVID-19 pandemic, using the case of Germany as an example. Clearly, this pandemic represents a historically exceptional situation for all welfare states. Maintaining the trust of citizens in the ability of the system to cope with the crisis is and remains crucial, not least because individual commitment and willingness to contribute to the collective goal of fighting the spread of the virus is a necessary element of a successful crisis response strategy.

There are a number of important take-aways from this analysis. The first is about the impact of the COVID-19 pandemic on citizens' specific trust in the healthcare system. The analysis shows that efficiency perceptions, in particular, are sensitive to the real development of the pandemic with a significant decline of performance evaluations in the most recent period. In contrast, fairness perceptions and individualized trust in healthcare have remained relatively high and robust, even though these factors also decline somewhat recently. Still, so far, the real or perceived deficiencies in the performance of the healthcare system do not seem to have triggered a 'downbound spiral' (Haugsgjerd and Kumlin, 2020) in general political trust as support for radical anti-COVID-19 protests and anti-system parties remains rather marginal (Diehl and Wolter, 2021).

The second important take-away is that generalized political trust is a very important determinant of performance perceptions and specific trust in healthcare. This finding is far from obvious since the literature on political trust and welfare state performance discussed above has come with very mixed findings regarding their association. As said above, the pandemic provides a unique opportunity to study how general political trust affects performance perceptions in a particular moment of extreme crisis. The analysis clearly confirms that it is especially in these crisis moments when generalized political trust turns into an important resource from the perspective of policymakers, mitigating societal and political conflict about the performance of the healthcare system in a time when the continued support and compliance of citizens with health regulations becomes a critical factor for overcoming the pandemic.

What are the implications of this study beyond the case of Germany and what are avenues for future research? A limitation of the present study was that it

did not ask respondents to directly compare the performance of Germany's healthcare system to other countries. Empirically, this would have been extremely challenging, given the changing relative performance of other countries throughout the pandemic. It would also impose a lot of assumptions on the respondent's ability to access and process information about the other countries' healthcare systems. Thus, even though the empirical analysis focuses on performance perceptions of healthcare *within* Germany, it may offer insights for the comparative analysis of countries. Even though Germany is not necessarily one of the absolute top performing countries in healthcare (OECD, 2019), its healthcare system still performs rather well overall and is broadly supported by the public. Thus, countries with a less well-performing system might suffer more from declining trust in the system, contributing to political polarization reflected in unequal chances of getting access to necessary treatments and vaccinations. Ideally, future research would take up this issue and study to what extent the COVID-19 pandemic may have shifted the citizens' attitudes towards healthcare in the long term in other countries as well. A further issue to explore is to what extent performance perceptions are related to actual policy preferences, for example, regarding public spending on healthcare.

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Supplemental material

Supplemental material for this article is available online.

Notes

1. See, for example: <https://www.nytimes.com/2020/08/05/world/europe/germany-coronavirus-test-travelers.html>.
2. See data on the COVID-19 global dashboard hosted by the Johns Hopkins University: <https://coronavirus.jhu.edu/map.html>.
3. See: <https://www.spiegel.de/politik/deutschland/corona-chaos-in-deutschland-multiples-staatsversagen-kommentar-a-2647f186-883e-4823-8cc4-9a0b3de38af9>.
4. There is of course a significant literature on the impact of economic and other crisis on attitudes, preferences and political participation (see Margalit (2019) for an excellent overview), which I do not have the space to review here.
5. The empirical analysis below will show that these items are positively, but only moderately correlated. Likewise, there is no common underlying latent factor as confirmed by a factor analysis (see Table A3 in the online appendix as well).
6. I thank one of the anonymous reviewers for this article for this important point.
7. In principle, a further differentiation in the highly educated group is possible, but does not lead to substantially different findings.
8. ‘Between’ effects are operationalized by including the level-2 unit average values as regressors, whereas ‘within’ effects are measured as the difference between individual level-1 observations and the level-2 mean.

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