ORIGINAL ARTICLE



Personal experiences with the national healthcare system and institutional trust in times of COVID-19

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Abstract

We conducted two studies to analyze the relations between dissatisfaction with experiences with the national healthcare system and trust in political (political parties and parliament), super partes (judiciary and police), and international (European Union [EU] and United Nations [UN]) institutions via the mediation of trust in the national healthcare system. Study 1 (longitudinal study on a quota sample of the Italian adult population, N=689, surveyed in April 2021, T_1 , and in April 2022, T_2) showed that dissatisfaction with experiences with the national healthcare system was negatively associated with trust in the national healthcare system, which, in turn, was positively associated with an increase in trust in political, super partes, and international institutions. Study 2 (between-participant experimental design, N=285) showed that priming a negative versus a positive experience with the national healthcare system decreased trust in this system, which, in turn, was positively associated with trust in political, super partes, and international institutions. The strengths, limitations, and possible development of this research are discussed.

KEYWORDS

healthcare system, institutional trust, personal experience, service satisfaction

INTRODUCTION

The relationship between institutional trust and attitudes toward welfare services is complex and circular: Citizens who trust political institutions in general are more likely to support public spending on universalist services, whereas citizens who perceive welfare state institutions and policies to be well-functioning tend to trust political institutions (e.g., Habibov et al., 2018;

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Kumlin, 2002, 2004; Kumlin & Rothstein, 2005). This is relevant from a policy perspective, as institutional trust is a valuable resource that promotes citizens' positive expectations about the functioning and fairness of a system, especially in times of uncertainty, when higher costs and greater sacrifices have to be faced (Almond & Verba, 1963; Busemeyer, 2022). In the present work, we have taken advantage of an unprecedented situation, the COVID-19 pandemic, to analyze some of the political consequences of personal experiences with the specific welfare service that was in the spotlight more than any other at the time, namely, the public healthcare system. To this end, we present two studies conducted in Italy that examined the relation between (dis)satisfaction with the public healthcare system and trust in political institutions.

The role of experience as a precursor of trust

Given the importance of social and institutional trust as resources necessary for the functioning of democracy and civil society, many efforts have been made to understand the factors and mechanisms responsible for the emergence of this trust. The hypothesis that negative experiences can diminish trust has mainly been investigated in the field of social trust, assuming that people generalize their trust based on their experiences with certain others (e.g., Glanville & Paxton, 2007). However, this finding is controversial: In a longitudinal study, Bauer (2015) found that criminal victimization has no effect on generalized social trust, which appears to be essentially stable over time.

In terms of institutional trust, the idea that citizens' evaluation of institutional performance based on personal experiences with the services provided by the state plays a role in their trust is consistent with an instrumental or competence-based view of trust (Siegrist, 2021). Overall, direct behavioral experiences with an attitude object provide a set of highly accessible information and evaluations that can be easily used as a basis for further related judgments (Fazio et al., 1982). More specifically, since citizens' daily goals often depend on public services, direct contacts with welfare institutions provide them with clues about the extent to which the political system and its policies affect citizens' lives in concrete terms. Such contacts can therefore be occasions for adult political learning (Soss, 1999) and political opinion formation (Kumlin, 2002; Mattila & Rapeli, 2018). This conditional trust (i.e., the expectation that the trustee will behave appropriately) can become unconditional through repeated positive behavioral interactions with the trustee (Jones & George, 1998). The critical aspects that support this judgment are the perception of competence, empathy, fairness, transparency, and the values that the institution embodies in the delivery of its services (Høyer & Mønness, 2016).

The literature documents that political judgments of trust can develop, at least in part, based on personal experiences with the service provided by the welfare system (e.g., Kumlin, 2004; Van Ryzin, 2007). It is plausible that the core welfare service at play corresponds to the main goals that people pursue in a particular situation or stage of life. For example, parents are likely to base their trust mainly on their experience of educational services and senior citizens mainly on their experience of the pension system. Consistent with this idea, citizens' personal experiences with unemployment weaken trust in political institutions (Giustozzi & Gangl, 2021). Moreover, a positive relationship has been observed between students' perceived fairness of the teachers in public schools and their trust in political institutions (Berg & Dahl, 2020). However, empirical evidence on the effects of personal experiences with the healthcare system is scarce. We reasoned that in times of high salience of the healthcare system, personal experiences with this system might have had a decisive impact on citizens' trust in this part of the welfare state and consequently might have changed their trust in the political institutions (parliament and political parties) directly responsible for the organization and administration of healthcare policies (Kihlström et al., 2023). We also explored whether this change has spilled over to other institutions less directly involved in the organization and management of health policy, such as *super partes* (judiciary and police) and international (European Union [EU] and United Nations [UN]) institutions. In the following sections, we focus on how the quality of personal experiences with the healthcare system might influence trust in institutions.

(Dis)satisfaction with the healthcare system

Both before (e.g., Batbaatar et al., 2017; Sonis et al., 2018) and during (e.g., Hawrysz et al., 2021) the COVID-19 pandemic, extensive research had been conducted on the determinants of satisfaction with the healthcare system. However, far less attention has been paid to the consequences of unsatisfactory experiences with the healthcare system. Some studies have focused on specific reactions of dissatisfied patients in the form of negative word-of-mouth, provider switching, and complaints (e.g., Um & Lau, 2018; Ware & Davis, 1983). Other studies have looked at the psychological consequences of negative experiences with the healthcare system, such as identity threat (Coyle, 1999). In the context of the COVID-19 pandemic, dissatisfaction with access to the healthcare system in the United States was found to be positively associated with vaccine hesitancy (Bass et al., 2021). However, direct personal experiences of unsatisfactory responses to one's health needs could have much more far-reaching consequences, such as reducing citizens' trust in health authorities and a negative spillover effect on political trust (e.g., Mattila & Rapeli, 2018), especially as welfare state services are the domains where most people build meaningful relationships with public authorities (e.g., Kumlin, 2004).

A few studies conducted before the COVID-19 pandemic have empirically investigated the association between (dis)satisfaction with the healthcare system and political trust. Christensen and Lægreid (2005) compared the role of three groups of determinants (service satisfaction, political-cultural factors, and demographic factors) of trust in political actors and institutions in Norway. One of the items measuring service satisfaction concerned the respondents' satisfaction with public medical care. A regression analysis showed that this variable was positively associated with trust in political institutions, although this association was weaker than that involving political factors such as satisfaction with democracy. In addition, Mattila and Rapeli's (2018) analysis of European Social Survey (ESS) data from 2002 to 2012 showed a positive association between poor individual health status and a negative evaluation of the health services in one's own country, on the one hand, and political distrust, on the other. Interestingly for our purposes, these authors also argued that the most optimal predictor of political trust would have been the direct assessment of personal experiences with public healthcare services, but this variable was not available in the data set they used. Similarly, by analyzing ESS data from 2008 to 2016, de Blok et al. (2020) documented that citizens' satisfaction with public services (i.e., healthcare and education) is positively associated with trust in political institutions (i.e., parliament, politicians, and political parties). However, the relationship between the quality of personal experiences with the healthcare system and political trust is not universal and homogeneous but varies according to specific healthcare policies. For example, Larsen's (2020) study found that the relevance of personal experiences varies depending on whether the healthcare system is publicly or privately funded.

After the period considered in these studies, the COVID-19 pandemic put the spotlight on countries' healthcare systems and their ability to cope with an unprecedented burden, which presumably pushed other public services into the background (Paschoalotto et al., 2023). During this time, many people needed emergency medical care and thus came into direct contact with healthcare professionals and facilities and experienced their ability to manage patient problems. The difficulties in providing effective responses to the sudden increase in healthcare demands may have worsened citizens' experiences of the healthcare system. Did this also lead to a deterioration of institutional trust? The three-wave longitudinal study by Busemeyer (2022) partly supports this idea, as it shows a decline in generalized trust (perceived

efficiency, perceived fairness, and individual trust) in the German healthcare system from 2020 to 2021, in conjunction with a parallel decline in generalized political trust. However, Busemeyer did not consider respondents' personal experiences with the healthcare system. Furthermore, he did not analyze whether only the institutions responsible for managing the pandemic were affected by this negative effect or if others were as well.

Based on the instrumental view of trust, we should expect a performance-based evaluation of institutions to translate into specific trust from institution to institution and thus have only a weak spillover effect, if any. In contrast, Høyer and Mønness (2016) suggest that this is the case only in fragmented political systems and with weak, generalized political identities. Consistent with this, in a study conducted in the pre-pandemic era, Høyer and Mønness documented strong spillover effects among all institutions in Norway that go beyond the effect between institutional and social trust. Therefore, even where citizens have an instrumental view of institutional trust, they might use their personal experiences and the resulting specific trust in an institution as heuristics to formulate their evaluation of other institutions.

We have attempted to address these issues by considering the role of personal experiences with the healthcare system rather than a generic evaluation of public services or the healthcare system.

Overview

In Italy, the national healthcare system is available to all citizens as a network of public-private structures managed by each region under the coordination of the national Ministry of Health. All citizens and residents have the right to choose a family doctor, paid by the state, who makes diagnoses, prescribes medications, and refers patients to specialists. The public healthcare system also provides medicines and specialist examinations without payment or with a partial payment, as well as universal emergency medical services (Serapioni & Matos, 2014).

Based on the above considerations, we formulated the hypothesis that (dis)satisfactory experiences with the public healthcare system should decrease trust in this system (H1), which, in turn, should spill over into trust in political institutions (i.e., those responsible for managing the crisis; H2). Furthermore, we explored whether this potential spillover also extends to *super partes* (judiciary and police) and international (EU and UN) institutions that were not directly involved in the management of the COVID-19 crisis.

We pursued our research goals in two studies. In Study 1, we chose a two-wave design focusing on participants' evaluations of their experiences with the national healthcare system. This longitudinal approach allowed us to capture a potential genuine change due to trust in the healthcare system. In Study 2, we extended the findings from Study 1 by adopting an experimental approach, in which we primed a positive versus negative experience with the national healthcare system. This procedure allowed us to make the personal experience salient and test its causal link with trust in the national healthcare system. The Bio-ethical Committee of the University of Turin (Italy) approved this research (protocol 181488).

STUDY 1

Method

We tested our hypotheses through a secondary analysis of the Consequences of COVID-19 (COCO) data set. The COCO project is a longitudinal study conducted on a broad quota sample of the Italian adult population, surveyed seven times: June 2019, April 2020, October 2020, April 2021, October 2021, April 2022, and October 2022. The variables we used for the present study

were taken from the April 2021 (T_1) and April 2022 (T_2) waves. The resulting data set, which consists of all participants who took part in both waves and gave valid responses to all measured variables, comprises 725 people. As we excluded from the main analyses those participants who had no experience with the national healthcare system in the years prior to the survey (see below), the data set we used consisted of 698 participants (50.9% women; mean age = 53.22, SD = 13.49). The exclusion of these participants did not bias the sample, as the participants included in and excluded from the analyses did not differ in terms of gender, $\chi^2(1)$ = 1.178, p = .278, age, t (723) = -.99, p = .323, education level, t (723) = -1.880, p = .061, and trust in the national healthcare system, t (723) = -1.620, p = .106. In addition, six structural equation models (full analyses are available from the corresponding author) showed that the variable related to inclusion in or exclusion from the data set was not associated with institutional trust at T_1 and T_2 , estimated as latent variables (we used gender, age, and education as control variables), with betas' ps ranging from .052 (when it came to trust in international institutions at T_2) and .253 (when it came to trust in super partes institutions at T_1).

The data set can be requested at https://www.dippsicologia.unito.it/do/progetti.pl/Show?_id=9fxo.

Measures

Beyond the control variables—gender (0=man, 1=woman), age, and years of formal education—at T_1 (April 2021), trust in political (political parties and parliament), *super partes* (judiciary and police), and international (EU and UN) institutions was assessed using 10-category ESS items: "How much do you personally trust each of the following institutions?" At T_2 (April 2022), participants were asked how often they had contact with the national healthcare system (for medical examinations, analyses, or therapies) in the years preceding the survey (response options: *Never, Rarely, Sometimes*, and *Often*). The participants who did not choose the *Never* option were asked to answer the following item: "Overall, how satisfied are you with the treatment you have received?" The response options were *Not at all, A little, Somewhat*, and *Extremely*. Trust in institutions was assessed with the same variables used at T_1 . A preliminary measurement model showed the expected factorial structure (see Table 1). In addition, we compared the fit of an unconstrained model, in which we left the factorial loadings free, with that of a constrained model, in which we fixed all factorial loadings to be equal across waves (see Widaman et al., 2010). We opted for

TABLE 1	Study I: I	Measurement mod	del (standarc	lized loadings).
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	T_1			<u>T</u> ₂						
	Political institutions	Super partes institutions	International institutions	Political institutions	Super partes institutions	International institutions				
Political parties	.81***			.80***						
Parliament	.94***			.98***						
Judiciary		.81***			.77***					
Police		.57***			.59***					
EU			.87***			.91***				
UN			.86***			.88***				
Fit of the model	$\chi^{2}(33) = 64.24$ CFI = .995 RMSEA = .0.									

^{***}p<.001.

metric invariance of the measure based on differences in the chi-square, comparative fit index (CFI), and root mean square error of approximation (RMSEA), with a significant difference between the chi-squares of the models and the recommended thresholds for change (≥ .010 for CFI and ≥ .015 for RMSEA) indicating non-invariance (Chen, 2007; see Table 2). Table 3 reports the

descriptive statistics for the variables we used and their bivariate correlations.

Data analyses

Using Mplus Version 8 (Muthén & Muthén, 1998–2017), we tested our hypotheses using a structural equation model (SEM) combining a measurement model, in which we measured trust in institutions as latent variables, and a dependency model, in which we estimated the relations among the variables we used. In both Study 1 and Study 2, we chose the SEM approach because it allowed us to simultaneously predict the three dependent variables, because it allowed the estimation of

TABLE 2 Study 1: Metric invariance of the measure of institutional trust.

	Unconstrained model	Constrained model	Difference
$\chi^2(df)$	$\chi^2(33) = 64.246, p = .001$	$\chi^2(36) = 65.641, p = .002$	$\Delta \chi^2(3) = 1.395, p = .706$
CFI	CFI=.995	CFI=.995	$\Delta CFI = .000$
RMSEA	RMSEA = .037	RMSEA = .035	$\Delta RMSEA = .002$

TABLE 3 Study 1: Descriptive statistics for the study variables and bivariate correlations between them.

	Mean	SD	2.	3.	4.	5.	6.
1. Gender (0=man, 1=woman)	.51	.50	.01	10**	.04	01	07
2. Age	53.22	13.49		26***	12**	.11**	05
3. Years of education	14.02	3.54			00	.02	.03
4. Dissatisfaction with contact with the public healthcare system	2.21	.68				63***	26***
5. Trust in the public healthcare system	6.28	2.20					.33***
6. Trust in political parties, T_1	3.37	2.20					
7. Trust in the parliament, T_1	4.22	2.34					
8. Trust in judiciary, T_1	4.97	2.44					
9. Trust in police services, T_1	6.48	2.30					
10. Trust in the EU, T_1	4.86	2.42					
11. Trust in the UN, T_1	5.23	2.38					
12. Trust in political parties, T_2	3.54	2.29					
13. Trust in the parliament, T_2	4.37	2.38					
14. Trust in judiciary, T_2	5.04	2.47					
15. Trust in police services, T_2	6.52	2.25					
16. Trust in the EU, T_2	5.39	2.46					
17. Trust in the UN, T_2	5.36	2.47					

Note: When gender is involved, the "mean" is the proportion, on a 0–1 scale, of women, and the point-biserial correlation is presented.

^{***}p < .001; **p < .01; *p < .05.

multi-item measures as latent variables, resulting in more reliable measures than those obtained from the standard Likert approach, and because it provides richer information compared to the traditional regression approach, by making the fit of the tested model available.

Results

Table 4 reports the results of the analyses. The control variables were not associated with either mediator or institutional trust. Consistent with H1, dissatisfaction with experiences with the public healthcare system had a negative association with trust in the public healthcare system. In addition, trust in institutions at T_1 was significantly associated with the corresponding trust at T_2 . Consistent with H2, trust in the national healthcare system also had a positive association with trust in political institutions. The same association was also positive when trust in *super partes* institutions and international institutions was involved. As the autoregressive effects (i.e., trust in such institutions at T_1) were partialed out, these findings should be interpreted as showing genuine changes due to trust in the national healthcare system rather than simple associations due to a relatively stable generalized trust. The total associations between dissatisfaction with experiences with the public healthcare service and trust in political (coeff. = -.48, standard error [SE] = .89, p < .001), super partes (coeff. = -.71, SE = .09, p < .001), and international (coeff. = -.66, SE = .09, p < .001) institutions were negative. In addition, the indirect associations between dissatisfaction with experiences with the public healthcare service and trust in political (coeff. = -.48,

7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
06	01	03	04	.03	06	05	01	06	01	.03
03	06	.15***	04	07	04	00	08*	.19***	.01	01
.05	.07	04	.11**	.06	00	.01	.07	04	.07	.04
29***	22***	36***	19***	21***	31***	35***	28***	43***	32***	30***
.38***	.36***	.51***	.34***	.36***	.46***	.52***	.51***	.63***	.55***	.53***
.76***	.49***	.35***	.54***	.51***	.66***	.62***	.40***	.31***	.45***	.40***
	.56***	.44***	.62***	.57***	.59***	.67***	.45***	.36***	.53***	.48***
		.46***	.64***	.63***	.34***	.48***	.71***	.35***	.52***	.50***
			.38***	.45***	.25***	.36***	.34***	.73***	.32***	.37***
				.74***	.40***	.52***	.48***	.29***	.71***	.60***
					.41***	.51***	.49***	.34***	.64***	.68***
						.78***	.46***	.36***	.57***.	.55***
							.58***	.45***	.71***	.67***
								.45***	.63***	.60***
									.44***	.49***
										.80***

TABLE 4 Study 1: Prediction of trust in institutions.

	Trust in the public healthcare system (mediator)				Trust in political institutions, T_2			Trust in super partes institutions, T_2			Trust in international institutions, T_2		
	b	SE	β	b	SE	β	b	SE	β	b	SE	β	
Gender (0=man, 1=woman)	.06	.13	.01	06	.10	02	07	.10	02	.12	.11	.03	
Age	.01	.01	.05	00	.00	03	00	.00	03	00	.00	01	
Education	.02	.02	.03	02	.01	04	.00	.02	.00	01	.02	01	
Dissatisfaction with contact with the national healthcare system	-2.01***	.10	.62	.00	.09	.04	.08	.10	.04	.08	.10	.00	
Trust in political institutions, T_1				.70***	.04	.74							
Trust in super partes institutions, T_1							.53***	.04	.72				
Trust in international institutions, T_1										.69***	.03	.72	
Trust in the national healthcare system				.24***	.03	.31	.39***	.03	.54	.37***	.03	.40	
R^2	.39			.65			.69			.67			
Fit of the model	$\chi^{2}(84) = 468.0$ CFI = .948 RMSEA = .08		.001										

^{***}p<.001.

SE = .06, p < .001), super partes (coeff. = -.79, SE = .08, p < .001), and international (coeff. = -.74, SE = .08, p < .001) institutions were also negative.

Discussion

In this study, we hypothesized that the perceived quality of experience with the national healthcare system would be significantly related to trust in that system, which, in turn, would be positively related to an increase in trust in political institutions. Our analyses confirmed these hypotheses. Moreover, they showed that the abovementioned spillover effect also extends to institutions not directly involved in the management of the pandemic (i.e., *super partes* and international institutions). The longitudinal approach of this study evidenced a genuine change in institutional trust that is indirectly attributable to the evaluation of experiences with

¹Three sets of parallel analyses (results are available from the corresponding author) respectively showed that (a) trust in the national healthcare system did not predict the evaluation of the experiences with that system, $\beta = -.18$, SE = .18, p = .316; (b) frequency of contact with the national healthcare system, $\beta = .11$, SE = .30, p = .703, and its interaction with the evaluation of such contact, $\beta = -.05$, SE = .13, p = .704, were not associated with trust in the national healthcare system; and (c) adding participants' political placing on the left–right axis to the control variables did not change the results.

the healthcare system. However, because the COCO data set did not contain information on trust in the national healthcare system before T_2 , we could not conclude that (dis)satisfaction with personal experiences with the healthcare system had a causal effect on general trust in the healthcare system. We tried to overcome this limitation in Study 2, in which we attempted to recreate the salience of personal experiences with the healthcare system through a priming manipulation. In this way, we were able to test the same research questions and hypotheses as in Study 1 using an experimental approach.

STUDY 2

Method

Using Limesurvey, we conducted an online survey experiment with a convenience sample of Italian adults. An a priori sample size calculation was conducted using G*Power 3.1 (Faul et al., 2007). Based on the results from Study 1, we expected that dissatisfaction with experiences with the national healthcare system would have an effect of medium size on trust in the national healthcare system (cf. Chin, 1998). With α =.05 and power=.95, the projected sample size needed to detect a medium effect size (d=.05) was at least 176 participants. To allow for dropouts, we aimed to recruit 400 participants at the start of the study. The initial sample comprised 402 participants, who were recruited with a snowball method by two research assistants who asked the components of their social network to complete the questionnaire and to forward the link to other people. The survey was presented as a study of Italians' experiences with the public healthcare system. The data were collected between December 2022 and September 2023 (i.e., after the period analyzed in Study 1).

After asking participants about the frequency of their contact with the national healthcare system (for medical examinations, analyses, or therapies) in the years prior to the survey and about their satisfaction with the treatment they had received, using the same items as in the COCO project (we did not use these variables in this study), we introduced the experimental manipulation. To prime the perceived quality of experience with the national healthcare system, participants were randomly asked to report a positive (n=204) or negative (n=198)experience with this system. After answering a closed-ended question asking them to recall the task they had completed (we used this variable as a manipulation check), they then indicated their trust in the national healthcare system and in political, super partes, and international institutions, asked using the same items as in Study 1. A standard sociodemographic form followed. After completing the questionnaire, participants received a detailed debriefing, in which the purpose of the study was explained to them and the experimental conditions were described. We excluded from the data set 117 participants who did not respond to the openended question about their experiences with the national healthcare system. The resulting sample consisted of 285 participants (65.0% women; mean age = 32.68, SD = 14.34; 148 reported a positive experience, and 137 reported a negative experience). Excluding these participants did not bias the sample, as the excluded and included participants did not differ in terms of gender, $\chi^2(1) = .068$, p = .794, age, t(391) = .799, p = .425, education, t(393) = .699, p = .485, and trust in the national healthcare system, t(396) = .180, p = .429. The data set is available at https://osf.io/ gvqta/?view only=b9515fd04c6e4d75839563291a1d184d.

A measurement model showed the expected factorial structure of the institutional trust measure (see Table 5). Table 6 reports the descriptive statistics for the variables we used and their bivariate correlations. We tested our hypotheses via a series of *t* tests for independent samples (conducted using SPSS) and a SEM (estimated using Mplus Version 8; see Muthén & Muthén, 1998–2017) that combined a measurement model, in which we measured trust in institutions as latent variables, and a dependency model.

TABLE 5 Study 2: Measurement model (standardized parameters).

	Political institutions	Super partes institutions	International institutions
Political parties	.69***		
Parliament	.91***		
Judiciary		.80***	
Police		.50***	
EU			.86***
UN			.85***
Fit of the model	$\chi^{2}(6) = 12.729, p = .048$ CFI = .988 RMSEA = .063		

^{***}p<.001.

TABLE 6 Study 2: Descriptive statistics for the study variables and bivariate correlations between them.

	Mean	SD	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Gender (0 = man, 1 = woman)	.65	.48	07	.20***	11	10	13*	13*	08	12*	.01	.01
2. Age	32.68	14.34	-	07	04	02	.03	.07	.01	.31***	19***	09
3. Years of education	16.78	3.22		-	.08	06	13*	13*	.05	10	.09	02
4. Experimental manipulation: dissatisfaction with contact with the public healthcare system	.48	.05			_	15*	04	08	06	03	03	04
5. Trust in the public healthcare system	5.89	2.15				_	.30***	.35***	.33***	.31***	.26***	.23***
6. Trust in political parties	3.33	1.99					-	.63***	.35***	.27***	.27***	.22***
7. Trust in the parliament	4.03	2.42						-	.44***	.30***	.39***	.36***
8. Trust in judiciary	5.33	2.18							-	.40***	.48***	.46***
9. Trust in police services	6.04	2.51								-	.23***	.32***
10. Trust in the EU	6.03	2.40									-	.73***
11. Trust in the UN	6.11	2.15										-

Note: When gender is involved, the "mean" is the proportion, on a 0–1 scale, of women, and the point-biserial correlation (or, in the case of its association with the experimental manipulation, the polychoric correlation) is presented.

^{***}p < .001; *p < .05.

Results

A preliminary analysis showed that our manipulation was effective. Specifically, 97.89% of the participants answered our manipulation check item correctly. A series of t tests for independent samples was used to compare the effects of the prime of a negative or positive experience with the healthcare system on all levels of trust. Consistent with H1, participants to whom we primed a negative experience expressed less trust in the national healthcare system than participants to whom we primed a positive experience. However, the same manipulation had no direct effect on trust in political, super partes, and international institutions (see Table 7).

Table 8 reports the results of the structural equation model. Age was positively related with trust in *super partes* institutions and negatively associated with trust in international institutions, while the other control variables were not related to either the mediator or the dependent variable. Even when the effects of the control variables were partialed out, consistent with H1, dissatisfaction with experiences with the public healthcare system, experimentally manipulated, had a negative effect on trust in the national healthcare system. In addition, consistent with H2 and the results of Study 1, trust in the national healthcare system was positively associated with trust in political institutions, as well as with trust in *super partes* and international institutions. The indirect effects of the experimental manipulation on trust in political (coeff. = -.15, SE = .07, p = .028), *super partes* (coeff. = -.24, SE = .11, p = .024), and international (coeff. = -.18, SE = .09, p = .033) institutions were significantly negative.²

Discussion

The results from Study 2 were consistent with those from Study 1 and experimentally confirmed them. Priming a negative (compared to a positive) experience with the national healthcare system led participants to express less trust in that system, which, in turn, spilled over to trust in all the categories of institutions we considered (political, *super partes*, and international).

GENERAL DISCUSSION

In this article, we present the results of two studies on the role of (dis)satisfaction with experiences with the national healthcare system in reducing or increasing trust in that system and in political, *super partes*, and international institutions. In the two studies, we used different types of samples (a broad quota sample of the general Italian population for Study 1 and a convenience sample for Study 2) and different methodological approaches (a longitudinal approach in Study 1 and an experimental approach in Study 2). Despite these methodological differences, the results of both studies converged to show that the perceived quality of personal experiences with the national healthcare system is associated with trust in the national healthcare service (confirming H1), which, in turn, is not only positively related with the absolute level (Study 2) and the increase (Study 1) of trust in political institutions directly involved in the organization and management of the national healthcare system (confirming H2), but also spills over to trust in *super partes* and international institutions that are not involved in this organization and management.

²A parallel analysis, in which we added participants' political placing on the left-right axis to the control variables, yielded results similar to those we have published (available on request from the corresponding author).

TABLE 7 Study 2: Influence of the experimental manipulation on trust in the national healthcare system and on trust in political, *super partes*, and international institutions.

	Trust in the public healthcare system (mediator)	Trust in political institutions	Trust in super partes institutions	Trust in international institutions
Prime: negative experience with the national healthcare system	M = 5.56 SD = 2.22	M = 3.56 SD = 1.78	M = 5.58 SD = 1.92	M = 5.96 SD = 2.24
Prime: positive experience with the national healthcare system	M = 6.19 SD = 2.05	M = 3.78 SD = 1.76	M = 5.78 $SD = 1.95$	M = 6.15 SD = 2.36
	t(282) = 2.480, $p = .014, \eta^2 = .02$	t(275) = 1.259, $p = .105, \eta^2 = .01$	t(282) = .832, $p = .406, \eta^2 = .00$	t(278) = .593, $p = .554, \eta^2 = .00$

Note: The degrees of freedom change across the analyses due to a different frequency of missing values in the variables involved in the analyses.

TABLE 8 Study 2: Prediction of trust in institutions.

	Trust in the public healthcare system (mediator)		Trust in political institutions		Trust in <i>super partes</i> institutions			Trust in international institutions				
	b	SE	β	b	SE	β	b	SE	β	b	SE	β
Gender (0=man, 1=woman)	38	.27	08	26	.18	09	-35	.26	10	.04	.30	.00
Age	01	.01	04	.01	.01	.07	.02*	.01	.19	03*	.01	17
Education	02	.04	03	05	.03	12	.03	.04	.06	.04	.05	.06
Experimental manipulation: satisfaction with contact with the national healthcare system	.61*	.25	.14*	00	.16	00	05	.24	.01	.01	.28	.00
Trust in the national healthcare system				.24***	.04		.40***	.06		.30***	.07	
R^2	.03			.19			.29			.12		
Fit of the model	$\chi^2(24) =$ CFI = RMSE.	944	, p < .001									

^{***}p < .001; *p < .05.

In contrast to what occurred in several recent studies on institutional trust (e.g., Gustavsson & Taghizadeh, 2023; Lago & Blais, 2023; Rožukalne et al., 2022), our methodological approach allowed for a cautiously causal (at least in part) interpretation of our findings: The results of longitudinal Study 1 supported a causal link between the mediator and the outcome, whereas the findings of Study 2 supported a causal link between the exogenous (manipulated) variable and the mediator. The significant indirect effects of the prime of a positive versus a negative experience with the healthcare system and trust in the three classes of institutions we analyzed that stemmed from Study 2 also suggested a causal, indirect link between the exogenous variable and the dependent variables. This supports the idea that institutional trust can be understood as a heuristic that people can rely on to evaluate the institution's performance in dealing with complex situations (Hetherington, 2005; see also Rudolph, 2017). Interestingly,

with our data we were able to rule out the alternative interpretation that greater trust in the national healthcare system biases evaluations of personal interactions with that system, as institutional trust was not significantly associated with the evaluation of experiences with the national healthcare system.

In this research, we have assumed that, in the relation between the citizen and the institutions of the welfare state, the main goals that people pursue in a particular stage of life or in a particular contextual situation emphasize a particular service and make it the main basis of their institutional trust. In line with this assumption, in our two studies we focused on what happens when the national healthcare system is highly salient. In Study 1, conducted at a time when COVID-19 was still a major issue, the national healthcare system was inherently salient. In Study 2, we reproduced this salience experimentally by priming participants' positive or negative experiences with the national healthcare system. An interesting further development of our research could analyze what happens in "normal" situations, when the national healthcare system is not made salient by contingent or external factors. Overall, we conjecture that participants' trust should depend on their satisfaction with the welfare services that are most relevant to their personal situation. Specifically in relation to the national healthcare system, we expect that when the salience of a bad experience with such service is due to personal problems rather than to a global crisis that has caused an unprecedented strain for this system, people could be even less forgiving in judging the competence and fairness of the service providers and political authorities from which they originate. Future studies could fruitfully test these speculations.

The Italian context in which we conducted this research deserves special consideration. The relation between Italians and their institutions is problematic in two respects. On the one hand, Italians have long had a stable, low level of trust in institutions (e.g., Gasperoni, 2013), both in absolute terms and compared to citizens of the other major European countries (e.g., Archer & Ron-Levey, 2020). However, recent research has shown that Italians' trust in institutions can indeed change in critical times (e.g., Cavazza et al., 2022). Our findings are consistent with this relative variability of Italians' trust in institutions. On the other hand, the high ideologization and partisanship of Italian society leads to a politicized evaluation of institutions, with Italian leftists generally having more trust in political, super partes, and international institutions than Italian rightists (Almond & Verba, 1963). Against this background, the associations we analyzed did not change when participants' ideology was partialed out. However, the spillover effects we observed in our studies could actually be a consequence of such a politicized view of institutions, which could have led participants to consider them en bloc, without subtly differentiating among them. In this light, they may have heuristically used trust in a single group of institutions as an anchor to develop their trust in the other groups of institutions. This would be consistent with Busemeyer (2022), who has shown that in times of crisis, even institutions that are perceived as nonpartisan, such as healthcare institutions, can benefit from an increase in citizens' trust. This interpretation could be tested in a further development of our study.

As is often the case, this research had some limitations. From a methodological perspective, Study 1 was limited by the lack of $\operatorname{pre-}T_2$ information on participants' experiences with the national healthcare system. This limitation was partially overcome in Study 2. From a theoretical perspective, our studies leave open the question of the duration of the effects we found. The literature shows that exogenous shocks and negative individual experiences, such as criminal victimization, have at least medium-term effects. For example, rally effects last about six to eight months (e.g., Johansson et al., 2021), and the increase in fear of crime after criminal victimization lasts about 12 months (Russo & Roccato, 2010). A replication of longitudinal Study 1, conducted over a longer period, could help clarify the processes underlying our findings. In this replication, although previous studies have shown that one-time experiences are sufficient to influence trust in institutions (e.g., Hansen, 2022), it might be interesting to analyze the role of repeated positive and negative experiences with the national healthcare system.

Notwithstanding these limitations, our studies contribute to our understanding of citizens' trust in institutions. From a theoretical perspective, and due to their methodological approach, they help to clarify the actual impact of personal experiences with public services on trust in a wide range of institutions. Indeed, our findings support the instrumental or competency-based conception of trust (see Siegrist, 2021), which is seen as the outcome of citizens' evaluation of the performance of institutions, even in times of profound crisis. The "stress test" to which the healthcare system was subjected during the pandemic and the increased likelihood of inadequate services being provided posed a real threat not only to the perceived ability of the system to cope with a crisis, but also to democratic institutions in general. A few years ago, Roccato, Russo, et al. (2021) showed that a negative evaluation of the way the Italian government managed the COVID-19 pandemic from a health and economic point of view promoted support for anti-democratic political systems (i.e., a variable incompatible with trust in democratic institutions). Our results are consistent with this finding on the "democracy-promoting" effect of a positive evaluation of the state's performance. Replications in other contexts characterized by different healthcare systems, a more liberal welfare state management, and a different political culture (e.g., less ideological polarization) could corroborate our interpretations.

CONCLUSION

We would like to conclude our article with a theoretical and a policy note. From a theoretical perspective, the broad literature on rally effects (e.g., Bol et al., 2021; Colloca et al., 2024; De Vries et al., 2021; Esaiasson et al., 2021; Kudranać & Klusáček, 2022; Wang & Cheng, 2021) has shown that exogenous shocks, such as wars, terrorist attacks, and the COVID-19 pandemic, increase people's trust in political institutions. This increase in trust has both a social function, as it helps society face the threat as a single and cohesive unit (Chatagnier, 2012), and a psychological function, as it promotes citizens' well-being by conveying perceived control over the world (Roccato, Colloca, et al., 2021). Our findings contribute to this literature by showing that this increase in trust, far from being an arbitrary response to a crisis, depends, at least in part, on personal experiences with such systems. From a policy perspective, our findings show that the importance of adequate funding of the national healthcare system should not be underestimated, as its efficiency and effectiveness are crucial for citizens' trust in democratic institutions.

ACKNOWLEDGMENTS

We wish to express our gratitude to Hasna Ben Maarouf and Giulia Mariotto for collecting the data of Study 2. Open access publishing facilitated by Universita degli Studi di Modena e Reggio Emilia, as part of the Wiley - CRUI-CARE agreement.

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REFERENCES

Almond, G. A., & Verba, S. (1963). The civic culture: Political attitudes and democracy in five nations. Princeton University Press.

Archer, K., & Ron-Levey, I. (2020). Trust in government lacking on COVID-19's frontlines, Gallup blog, 20 March 2020. https://news.gallup.com/opinion/gallup/296594/trust-government-lacking-frontlines-covid.aspx

Bass, S. B., Wilson-Genderson, M., Garcia, D. T., Akinkugbe, A. A., & Mosavel, M. (2021). SARS-CoV-2 vaccine hesitancy in a sample of US adults: Role of perceived satisfaction with health, access to healthcare, and attention to COVID-19 news. Frontiers in Public Health, 9, 665724. https://doi.org/10.3389/fpubh.2021.665724

- Batbaatar, E., Dorjdagva, J., Luvsannyam, A., Savino, M. M., & Amenta, P. (2017). Determinants of patient satisfaction: A systematic review. Perspectives in Public Health, 137(2), 89–101. https://doi.org/10.1177/1757913916634136
- Bauer, P. C. (2015). Negative experiences and trust: A causal analysis of the effects of victimization on generalized trust. *European Sociological Review*, 31(4), 397–417. https://doi.org/10.1093/esr/jcu096
- Berg, M., & Dahl, V. (2020). Mechanisms of trust for different modes of welfare service provision. *Public Management Review*, 22(9), 1284–1305. https://doi.org/10.1080/14719037.2019.1630137
- Bol, D., Giani, M., Blais, A., & Loewen, P. J. (2021). The effect of COVID-19 lockdown on political support: Some good news for democracy? European Journal of Political Research, 62(2), 497–505. https://doi.org/10.1111/1475-6765.12401
- Busemeyer, M. R. (2022). The welfare state in really hard times: Political trust and satisfaction with the German healthcare system during the COVID-19 pandemic. *Journal of European Social Policy*, 32(4), 393–406. https://doi.org/10.1177/09589287221085922
- Cavazza, N., Russo, S., Colloca, P., & Roccato, M. (2022). How and why is the COVID-19 crisis impacting trust in institutions? A two-wave longitudinal study. *Psicologia Sociale—Social Psychology Theory and Research*, 17(3), 341–358. https://doi.org/10.1482/105492
- Chatagnier, J. T. (2012). The effect of trust in government on rallies 'round the flag. *Journal of Peace Research*, 49(5), 631–645. https://doi.org/10.1177/0022343312440808
- Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. Structural Equation Modeling: A Multidisciplinary Journal, 14(3), 464–504. https://doi.org/10.1080/10705510701301834
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295–358). Erlbaum.
- Christensen, T., & Lægreid, P. (2005). Trust in government: The relative importance of service satisfaction, political factors, and demography. *Public Performance & Management Review*, 28(4), 487–511. https://doi.org/10.1080/15309576.2005.11051848
- Colloca, P., Roccato, M., & Russo, S. (2024). Rally 'round the flag effects are not for all: Trajectories of institutional trust among populist and non-populist voters. *Social Science Research*, 119, 102986. https://doi.org/10.1016/j.ssresearch.2024.102986
- Coyle, J. (1999). Exploring the meaning of "dissatisfaction" with health care: The importance of "personal identity threat". Sociology of Health & Illness, 21(1), 95–123. https://doi.org/10.1111/1467-9566.t01-1-00144
- de Blok, L., Haugsgjerd, A., & Kumlin, S. (2020). Increasingly connected: Public service dissatisfaction and political distrust in Europe, 2008-2016. In B. Meuleman, W. van Oorschot, & Tijs Laenen (Eds.), Welfare state legitimacy in times of crisis and austerity (pp. 201-221). Edward Elgar Publishing.
- De Vries, C., Bakker, B. N., Hobolt, S. B., & Arceneaux, K. (2021). Crisis signaling: How Italy's coronavirus lock-down affected incumbent support in other European countries. *Political Science Research and Methods*, 9(3), 451–467. https://doi.org/10.1017/psrm.2021.6
- Esaiasson, P., Sohlberg, J., Ghersetti, M., & Johansson, B. (2021). How the coronavirus crisis affects citizen trust in institutions and in unknown others: Evidence from "the Swedish experiment". *European Journal of Political Research*, 60(3), 748–760. https://doi.org/10.1111/1475-6765.12419
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. https://doi.org/10.3758/BF03193146
- Fazio, R. H., Chen, J. M., McDonel, E. C., & Sherman, S. J. (1982). Attitude accessibility, attitude-behavior consistency, and the strength of the object-evaluation association. *Journal of Experimental Social Psychology*, 18(4), 339–357. https://doi.org/10.1016/0022-1031(82)90058-0
- Gasperoni, G. (2013). Il rapporto degli italiani con la politica [Italians' relation with politics]. In ITANES (Italian National Election Studies) (Ed.), Voto amaro: Disincanto e crisi economica nelle elezioni del 2013 [A bitter vote: Disenchantment and economic crisis in the 2013 election] (pp. 121–132). Il Mulino.
- Giustozzi, C., & Gangl, M. (2021). Unemployment and political trust across 24 Western democracies: Evidence on a welfare state paradox. *Acta Sociologica*, 64(3), 255–273. https://doi.org/10.1177/00016993211008501
- Glanville, J. L., & Paxton, P. (2007). How do we learn to trust? A confirmatory tetrad analysis of the sources of generalized trust. *Social Psychology Quarterly*, 70(3), 230–242. https://doi.org/10.1177/019027250707000303
- Gustavsson, G., & Taghizadeh, J. L. (2023). Rallying around the unwaved flag: National identity and Sweden's controversial COVID strategy. West European Politics, 46(6), 1063–1088. https://doi.org/10.1080/01402382.2023.2186027
- Habibov, N., Auchynnikava, A., Luo, R., & Fan, L. (2018). Who wants to pay more taxes to improve public health care? *International Journal of Health Planning and Management*, 33(4), e944–e959. https://doi.org/10.1002/hpm. 2572
- Hansen, F. G. (2022). How impressions of public employees' warmth and competence influence trust in government. *International Public Management Journal*, 25(6), 939–961. https://doi.org/10.1080/10967494.2021. 1963361
- Hawrysz, L., Gierszewska, G., & Bitkowska, A. (2021). The research on patient satisfaction with remote health-care prior to and during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 18(10), 5338. https://doi.org/10.3390/ijerph18105338

Political Psychology

- Hetherington, M. J. (2005). Why trust matters: Declining political trust and the demise of American liberalism. Princeton University Press.
- Høyer, H. C., & Mønness, E. (2016). Trust in public institutions—Spillover and bandwidth. *Journal of Trust Research*, 6(2), 151–166. https://doi.org/10.1080/21515581.2016.1156546
- Johansson, B., Hopmann, D. N., & Shehata, A. (2021). When the rally-around-the-flag effect disappears, or: When the COVID-19 pandemic becomes "normalized". *Journal of Elections, Public Opinion and Parties, 31*(S1), 321–334. https://doi.org/10.1080/17457289.2021.1924742
- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. Academy of Management Review, 23(3), 531–546. https://doi.org/10.5465/amr.1998.926625
- Kihlström, L., Siemes, L., Huhtakangas, M., Keskimäki, I., & Tynkkynen, L.-K. (2023). Power and politics in a pandemic: Insights from Finnish health system leaders during COVID-19. *Social Science & Medicine, 321*, 115783. https://doi.org/10.1016/j.socscimed.2023.115783
- Kudranać, A., & Klusáček, J. (2022). The temporary increase in trust in government and compliance with antipandemic measures at the start of the COVID-19 pandemic. *Czech Sociological Review*, 58(2), 119–150.
- Kumlin, S. (2002). Institutions-experiences-preferences: How welfare state design affects political trust and ideology. In B. Rothstein & S. Steinmo (Eds.), *Restructuring the welfare state: Political institutions and policy change* (pp. 20–50). Palgrave Macmillan.
- Kumlin, S. (2004). The personal and the political: How personal welfare state experiences affect political trust and ideology. Palgrave Macmillan.
- Kumlin, S., & Rothstein, B. (2005). Making and breaking social capital: The impact of welfare-state institutions. *Comparative Political Studies*, 38(4), 339–365. https://doi.org/10.1177/0010414004273203
- Lago, I., & Blais, A. (2023). Floods, terrorist attacks and the COVID-19 pandemic: The relationship between the (de) centralisation of power and the rally around the flag. *Regional Studies*. Advance online publication. https://doi.org/10.1080/00343404.2023.2224836
- Larsen, E. G. (2020). Personal politics? Healthcare policies, personal experiences and government attitudes. *Journal of European Social Policy*, 30(4), 467–479. https://doi.org/10.1177/0958928720904319
- Mattila, M., & Rapeli, L. (2018). Just sick of it? Health and political trust in Western Europe. European Journal of Political Research, 57(1), 116–134. https://doi.org/10.1111/1475-6765.12218
- Muthén, L. K., & Muthén, B. O. (1998-2017). Mplus user's guide: Eighth edition. Authors.
- Paschoalotto, M. A. C., Lazzari, E. A., Rocha, R., Massuda, A., & Castro, M. C. (2023). Health system resilience: Is it time to revisit resilience after COVID-19? *Social Science & Medicine*, 320, 115716. https://doi.org/10.1016/j.socscimed.2023.115716
- Roccato, M., Colloca, P., Cavazza, N., & Russo, S. (2021). Coping with the COVID-19 pandemic through institutional trust: Rally effects, compensatory control and emotions. *Social Science Quarterly*, 102(5), 2360–2367. https://doi.org/10.1111/ssqu.13002
- Roccato, M., Russo, S., Colloca, P., & Cavazza, N. (2021). The lasting effects of the COVID-19 pandemic on support for anti-democratic political systems: A 6-month longitudinal study. *Social Science Quarterly*, 102(5), 2285–2295. https://doi.org/10.1111/ssqu.12958
- Rožukalne, A., Kleinberga, V., Tīfentāle, A., & Strode, I. (2022). What is the flag we rally around? Trust in information sources at the outset of the COVID-19 pandemic in Latvia. *Social Sciences*, 11(3), 123–140. https://doi.org/10.3390/socsci11030123
- Rudolph, T. J. (2017). Political trust as a heuristic. In S. Zmerli & T. W. G. van der Meer (Eds.), *Handbook on political trust* (pp. 197–211). Elgar.
- Russo, S., & Roccato, M. (2010). How long does victimisation foster fear of crime? A longitudinal study. *Journal of Community Psychology*, 38(8), 960–974. https://doi.org/10.1002/jcop.20408
- Serapioni, M., & Matos, A. R. (2014). Citizen participation and discontent in three southern European health systems. Social Science & Medicine, 123, 226–233. https://doi.org/10.1016/j.socscimed.2014.06.006
- Siegrist, M. (2021). Trust and risk perception: A critical review of the literature. *Risk Analysis*, 41(3), 480–490. https://doi.org/10.1111/risa.13325
- Sonis, J. D., Aaronson, E. L., Lee, R. Y., Philpotts, L. L., & White, B. A. (2018). Emergency department patient experience: A systematic review of the literature. *Journal of Patient Experience*, 5(2), 101–106. https://doi.org/10.1177/2374373517731359
- Soss, J. (1999). Lessons of welfare: Policy design, political learning, and political action. *American Political Science Review*, 93(2), 363–380. https://doi.org/10.2307/2585401
- Um, K. H., & Lau, A. K. (2018). Healthcare service failure: How dissatisfied patients respond to poor service quality. International Journal of Operations & Production Management, 38(5), 1245–1270. https://doi.org/10.1108/IJOPM -11-2016-0669
- Van Ryzin, G. G. (2007). Pieces of a puzzle: Linking government performance, citizen satisfaction, and trust. *Public Performance & Management Review*, 30(4), 521–535. https://doi.org/10.2753/PMR1530-9576300403
- Wang, T.-Y., & Cheng, S.-F. (2021). COVID-19 and the anatomy of the rally effect in Taiwan. *Asian Survey*, 61(3), 388–410. https://doi.org/10.1525/as.2021.61.3.388

- Ware, J. E., Jr., & Davis, A. R. (1983). Behavioral consequences of consumer dissatisfaction with medical care. Evaluation and Program Planning, 6(3-4), 291-297. https://doi.org/10.1016/0149-7189(83)90009-5
- Widaman, K. F., Ferrer, E., & Conger, R. D. (2010). Factorial invariance within longitudinal structural equation models: Measuring the same construct across time. *Child Development Perspectives*, 4(1), 10–18. https://doi.org/10.1111/j.1750-8606.2009.00110x

How to cite this article: Cavazza, N., & Roccato, M. (2024). Personal experiences with the national healthcare system and institutional trust in times of COVID-19. *Political Psychology*, 00, 1–17. https://doi.org/10.1111/pops.13029