How the coronavirus crisis affects citizen trust in government institutions and in unknown others – Evidence from “the Swedish Experiment”

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Abstract

We study how Swedish citizen updated their institutional and interpersonal trust as the corona crisis evolved from an initial phase to an acute phase in the spring of 2020. The study is based on a large web-survey panel with adult Swedes ($n = 11,406$) in which the same individuals were asked the same set of questions at two different time points during the coronavirus pandemic (t_0 and t_1). The sample was self-selected but diverse (a smaller subsample, $n = 1,464$, was pre-stratified to be representative of the Swedish population on key demographics). We find support for that the corona crisis led to higher levels of institutional and interpersonal trust. We find no support for a polarization effect, according to which low-trusting citizens responded more negatively to the deepening crisis than high trusting citizens did.

A central issue during the coronavirus crisis is citizen trust in government institutions (van der Meer & Zmerli, 2017) and in unknown others (interpersonal trust) (Uslaner, 2018). Trust in government's good intentions and capacity to act will foster willing compliance with regulations to limit negative effects of the pandemic (Siegrist & Zingg, 2014; Taylor et al., 2009). Correspondingly, trust in that fellow citizens will act responsibly improve the chances of solving problems of collective action, such as hoarding of groceries (Lunn et al., 2020).

Countries entered the coronavirus crisis with a certain supply of institutional and interpersonal trust (Ortiz-Ospina & Roser, 2020). That trust level, which varies substantially across the world, formed a baseline condition for crisis management. However, as with other supplies, citizen trust needs to be monitored and replenished during difficult times (Easton, 1975). To understand the social conditions to fight the coronavirus, we need to learn if and how citizens update their trust attitudes in response to the dramatic events (Bauer, 2015; Nicholls & Picou, 2013).

The present research investigate trust formation processes among the Swedish public as their country moved from the initial phase of the crisis to the acute phase of the crisis. When generalising findings to other national contexts, above all, we direct attention to two parameters. First, the Swedish government strategy to curb the epidemic has (until April 2020) relied more on voluntary cooperation from citizens than on the mandatory regulations imposed by most other governments (Paterlini, 2020). That is, the move from the initial phase of the crisis to the acute phase of the crisis was less abrupt for Swedes than for citizens in countries with a more extensive lockdown of society (Petherick et al. 2020).

Second, Sweden, like other Nordic countries, entered the crisis with uniquely high levels of interpersonal trust, and with high levels of institutional trust (Martinsson & Andersson, 2019; Ortiz-Ospina & Roser, 2020). In countries with lower supply of trust, identical policies might have played out differently.

At the same time, Sweden has in recent years polarized along the lines observed in many democracies with individuals to the right expressing lower levels of trust than individuals who self-identify as centrist or leftist (Jylhä, Rydgren, & Strimling, 2019). In addition, significant opinion leaders were calling on the government to introduce more stringent containment measures (Franks & Nilsson, 2020; Robertson, 2020). This means that processes of polarization between trusting and less trusting individuals can be meaningfully studied in the Swedish national context.

We base our analysis on a large ($n > 12,000$) web-survey panel with adults Swedes in which the same individuals were asked the same set of question twice, at the initial phase of the crisis (t_0), and at the acute phase of the crisis (t_1). We also leverage that a subsample was interviewed a year before the crisis, in December 2018 (t_{-1}).

Using these data, we find that the Swedish public reacted positively to the dramatic events: As the crisis went into its acute phase, Swedes' trust in government institutions and in the unknown other increased significantly; and there is no evidence in our data for a polarization effect according to which low-trusting citizens responded more negatively to the deepening crisis than high-trusting citizens did.

Theory¹

In particularly difficult and dramatic times, such as after terrorist attacks and in wars, support for government institutions often increases. These effects are known as rally-round-the-flag effects, or rally effects for short, because they tend to increase support for figures or institutions that are associated with the nation (Dinesen & Jæger, 2013; Hetherington & Nelson, 2003; Mueller, 1970). Since the coronavirus carries war-like consequences, we expect that it increases trust in government institutions in a similar fashion (hypothesis 1). In support of this expectation, systematic research (Blais et al, 2020), as well as snap opinion polls (Supplementary Information (SI), Table S11), have documented strong support for the measures taken and for the authorities directly involved in crisis management, in several countries around the globe.

At the same time, the rally effect should not be taken for granted (Amat et al., 2020). For example, research on reactions to the swine flu epidemic (H1N1) in the Netherlands in 2009 shows a decrease in institutional trust at the peak of the crisis (van der Weerd et al., 2011). More generally, people frequently find reason to blame their government for lack of efficiency in the aftermath of natural disasters (Healy & Malhotra, 2009).

Moreover, expectations of uniformly positive reactions among the public are tempered by conditional factors. It is often the case that people interpret government actions differently depending on prior levels of institutional trust (Hetherington, 1998). In the current context, low-trusters are motivated to identify negative aspects of ambiguous situations (Paek et al.,

¹ We preregistered hypothesis 1-3 and supporting hypotheses at Osf registries

(<https://osf.io/bm2a6>).

2008; Vaughan & Tinker, 2009). A related reason to withhold support is that individuals may have strong preferences for stricter (or more lax) policies than the ones implemented. Given all this, we expect to observe increasing polarization of institutional trust with people who distrusted government institutions prior to the coronavirus crisis responding less positively than pre-crisis high institutional trusters (hypothesis 3a).

Expectations about the direction of change, or indeed about change over stability, are less certain when it comes to interpersonal trust. As interpersonal trust appears to be (partly) driven by institutional trust (Rothstein & Eek, 2009; Sønderskov & Dinesen, 2016), we expect that a rally effect will lead to increased trust in other people. Similarly, interpersonal trust will increase if citizens generalize from mediated and personal experiences about unselfish and solidary acts of other people during the crisis (Pavitt, 2018). However, to the extent that citizens generalize their beliefs about other people on the basis of stories about hoarding of supplies like toilet paper, we will rather observe declining trust in other people (Fehr & Gächter, 2000). Moreover, according to some research, interpersonal trust is an ingrained attitude that only changes gradually and under extreme circumstances (Uslaner, 2002).

Overall, since most countries have so far managed to keep together during the crisis, we expect that the constructive forces are strongest (Mawson, 2005; Rubin, Potts, & Michie, 2010), meaning that the aggregate level of interpersonal trust will have increased during the crisis (hypothesis 2). Given the commonly found information about people who behave irresponsibly (Hopman, Allegranzi, & Mehtar, 2020), we also expect differential reactions to the crisis depending on individuals' pre-crisis level of interpersonal trust (hypothesis 3b).

Data and Methods

Our data is from The Swedish Citizen Panel, an online panel survey run by the Laboratory of Opinion Research (LORE), at the University of Gothenburg.² LORE has recruited a pool of 75,000 panelists, whereof 80% are recruited through non-probability processes. We invited 18,045 panelists to the first panel wave during the initial phase of the coronavirus crisis (t_0). Out of the invited, 12,881 choose to participate, yielding a gross participation rate of 71,4%. In this baseline sample, males, elderly and highly educated are overrepresented in relation to the general public (see SI, Table S5).

A sub-sample of respondents were recruited with higher priority to representativeness. The sub-sample is part of a long-term panel that was recruited already in December 2018 to be followed through future and at the time unknown social crises. The original sample ($n = 4,056$) was pre-stratified to be representative of the general public with regard to gender, age and education. We invited the 2,499 respondents who took the first survey ($t-1$) to participate in the current study (t_0), whereof 1,662 did (a gross participation rate of 66,5 percent). This sample is used for robustness checks. (Table S5 in the SI provides sample characteristics).

The baseline sample of 12,881 panelists was invited to a second round of web-interviews during the acute phase of the crisis (t_1). Participation rate in t_1 was high, 88.5% in the large, full, sample ($n = 11,406$) and 88.1% in the smaller representative sub-sample ($n = 1,464$). Vital for our purposes, panel attrition was largely non-systematic. Participants who scored low on interpersonal trust in t_0 were slightly more likely to drop out from the study, but results are not driven by this bias.

² <https://lore.gu.se/>

While a probability-based sample would have been preferable in order to make exact estimates of effect sizes, our panel data can be expected to reproduce the true underlying change processes with reasonable certainty.

We run a priming experiment in the *t1* survey (see SI Table S9). To avoid contamination effects, respondents who were assigned to the treatment group ($n = 3,869$) are excluded from our estimates of the effects of coronavirus experiences. The representative sub-sample was not part of the experimental population.

Treatment

We want to learn how people updated their trust attitudes as the coronavirus crisis developed from the initial phase to the acute phase. Expressed differently, the deepening of the crisis is a treatment that may causally influence people's trust in government institutions and in unknown others. The treatment consists of the combined experiences that people made during the acute phase of the crisis. We do not attempt to isolate effects of, for instance, government policies, speeches by political leaders, the behaviour of citizens, news media coverage, social media information flows, or, indeed, the number of deaths in COVID-19.

We date the start of the initial phase of the crisis in Sweden to February 2, when the government classified the COVID-19 as a dangerous disease to society. We date the start of the acute phase of the crisis to March 11, when the Public Health Authority (PHA) had upgraded the spread of the epidemic to community transmission and the WHO assessed the COVID-19 to have reached pandemic proportions. See SI for further documentation of events during the two phases of the crisis.

The interviews for the first panel wave (t_0) were conducted between February 24 and March 10, at the end of the initial phase. At the time, thus, participants were aware that something unusual had happened, but they could not foresee the extent of the coming events. The treatment heterogeneity that results from a small number of participants taking the survey towards the end of the period makes no substantial difference to the results (see SI, Table S1-3 for the date of interviews).

The second panel wave (t_1) was in the field well into the acute phase of the crisis, from March 31 to April 14. While events continued to evolve from day to day during the field period, all subjects had been heavily treated with crisis experience and there was no end in sight.

Figure 1 shows the number of articles about the coronavirus in Sweden's four largest daily newspapers from January 1 to April 14 2020. It documents that the news media started to pay attention to the coronavirus during February, and that news coverage increased dramatically after March 10, when the Public Health Authority (PHA) announced that the coronavirus was spreading in society.

Fig. 1: Number of articles about the coronavirus in Sweden's four largest daily newspapers, January 1st – April 14th 2020.

Note: The four newspapers are Dagens Nyheter, Svenska Dagbladet, Aftonbladet and Expressen. The material was retrieved from the archive Retriever 04/18/2020 (<http://web.retriever-info.com.ezproxy.ub.gu.se/services/archive?>) using the search term corona*.

Empirical Strategy

By looking at individual-level change, we can estimate the effect of the deepening of the crisis on the two types of trust attitudes while controlling for inter-individual differences. Our identification strategy hinges on that no other factor than the deepening coronavirus crisis affected respondents' trust attitudes at t_1 . Given the extreme character of the crisis, and given that our t_0 interviews were conducted close to the beginning of the acute phase of the crisis, this is a reasonable assumption.

We examine change over time with paired t-tests since measurements are for the same individuals over time. T-tests are complemented with fixed effects estimation with clustering

on individuals. Here, interview times ($t-1$, $t0$, $t1$) are dummy coded and included as independent variables. Only individuals who gave valid answers to the trust questions are included. All statistical tests are two-tailed.

Results

The coronavirus crisis increases levels of institutional trust (H1)

To measure institutional trust, we asked the following question: “Generally speaking, how much trust do you have in Swedish government authorities?” Thus, we targeted overall trust in government institutions, the kind of trust attitude that will be relevant in the long term, post the coronavirus-pandemic (Norris, 2017). Responses were recorded on a fully labelled five-point scale running from “very high” to “very low.” For ease of interpretation, we recoded responses on the measures of trust to range from 0 to 1, with high numbers indicating a more trusting attitude. See Table S4 in SI for details on question wordings, response options, original values and recodes. Table S6 and S7 include further descriptive details on the measures.

Before turning to the parametric test of our hypothesis that the coronavirus crisis increases institutional trust, Figure 2 illustrates non-parametric smoothed local means and 95% confidence intervals by interview date. This estimation method makes no assumptions about the functional form during the time periods of interviewing. The figure suggests that there was an increase in institutional trust between $t0$ and $t1$.

A paired t-test among the same individuals ($n = 7,206$) who answered the same question at $t0$ and $t1$ confirms that there indeed was a rise in institutional trust (mean difference = 0.098, 95% CI [0.094, 0.103], $t_{7205} = 45.24$, $p < 0.0001$, $d = 0.53$). The result (also depicted in Figure

3) yields support for the rally hypothesis on institutional trust. Effect size calculations rely on Cohen's d_z for paired samples t-tests: $\frac{t}{\sqrt{n}}$ (Lakens, 2013).

Fig. 2: Institutional trust by survey participation date.

Note: The black line is the kernel-weighted local polynomial estimate (local mean smoothing) with 95% confidence interval in grey. Bandwidth = 3, kernel function = Epanechnikov.

We document a comparable rally effect with the representative subsample, attesting to the robustness of the shift. This sample was asked the same question on institutional trust at $t-1$ too. In the representative sample ($n = 1,415$), the mean increase in trust from $t0$ to $t1$ was 0.103 (95% CI [0.093, 0.113], $t_{1414} = 20.86$, $p < 0.0001$, $d = 0.55$). Moreover, the increase during the time period of over a year from $t-1$ to $t1$ in the representative sample was 0.089 (95% CI [0.079, 0.099], $t_{1414} = 17.25$, $p < 0.0001$, $d = 0.46$). Taken together, this indicates

that the increase in institutional trust occurred across Sweden in around the month that the coronavirus crisis reached its acute phase.

Fig. 3: Mean values of institutional trust over time.

Note: Means of institutional trust at $t-1$, $t0$ and $t1$ with 95% confidence intervals. The estimates are based on fixed effects regression with clustering on individuals. See Table S8 (model 1 and 2) in the Supplementary Results for details.

A priming experiment embedded in the $t1$ panel wave failed to generate further support for a causal interpretation of the observed change in institutional trust. Subjects who wrote down their thoughts about the coronavirus situation immediately before they answered the question on institutional trust were not more trusting than subjects in the control group, who instead wrote about corona-related thoughts at the end of the survey. However, in retrospect, we find

it likely that all subjects were saturated with crisis experiences as they started to take the survey (see Table S9 in SI about details of the experiment.)

The coronavirus crisis increases levels of interpersonal trust (H2)

Our measure of interpersonal trust was the following: “In your opinion, to what extent is it generally possible to trust people?” We used a five-point response scale with designated endpoints “people cannot generally be trusted” and “people can generally be trusted”.

The coronavirus crisis also seems to have increased trust in other people (Figure 4 and Figure 5). The mean difference among the same individuals ($n = 7,184$) who gave valid answers to the question on interpersonal trust at both occasions is 0.012 (95% CI [0.008, 0.016], $t_{7183} = 5.96$, $p < 0.0001$, $d = 0.07$). The increase in interpersonal trust is substantially the same with the representative sample in the short term (from t_0 to t_1 ; mean difference = 0.011, 95% CI [0.002, 0.020], $t_{1406} = 2.50$, $p = 0.012$, $d = 0.07$) and long term (from t_{-1} to t_1 ; mean difference = 0.015, 95% CI [0.005, 0.024], $t_{1406} = 2.90$, $p = 0.004$, $d = 0.08$). Se

In absolute numbers, the shift might seem small, but it is important to put this shift in the appropriate context. Compared to the increase in institutional trust, the change in interpersonal trust is around a tenth. On the other hand, interpersonal trust is often seen as very stable, almost like a personality trait (Uslaner, 2002). From this perspective, it is remarkable that the crisis appears to change something akin to a personality feature.

Fig. 4: Interpersonal trust by survey participation date.

Note: Interpersonal trust has been recoded to range from 0 to 1 with higher values indicating higher trust. The black line is the kernel-weighted local polynomial estimate (local mean smoothing) with 95% confidence interval in grey. Bandwidth = 3, kernel function = Epanechnikov.

Fig. 5: Mean values of interpersonal trust over time.

Comment: Means of interpersonal trust at $t-1$, $t0$ and $t1$ with 95% confidence intervals. The estimates are based on fixed effects regression with clustering on individuals. See Table 8 (model 3 and 4) in the supplemental material for additional details.

The coronavirus crisis increases the polarization of institutional and interpersonal trust (H3a and H3b).

To examine potential polarization over time in institutional trust and interpersonal trust, the dependent variables are created by studying change over time. Change scores are created by subtracting the old value on trust ($t0$ or $t-1$) from the new value ($t1$). The effect of the independent variable, the old value on trust, is estimated using OLS.

The change in institutional trust is not uniformly distributed. Most people increase their support for government authorities, but this increase is more pronounced among individuals

with less trusting attitudes compared to individuals at the other end of the spectrum, as Figure 6 shows. At the intercept, i.e. where the trust at t_0 is at its lowest point, the increase in trust from t_0 to t_1 is 0.293 (s.e. = 0.007, $t = 39.58$, $p < 0.0001$). At higher levels of previous institutional trust (t_0), the increase is reduced ($b = -0.305$, s.e. = 0.010, $t = -31.08$, $p < 0.0001$). Given the coding of the variables, this means that there was, in effect, no change at all among the most trusting individuals during the crisis. Of course, this may be an artefact of the response options where the most trusting individuals could not select a higher value.

Fig. 6: Differential change in institutional trust during the crisis.

Note: The dependent variable is change in institutional trust from t_0 to t_1 . The variable can range from -1 to 1, s.d. = 0.184, $n = 7206$. See SI Table S10 (models 1-3) for additional details.

The results depicted in Figure 7 show a similar pattern of change from $t0$ to $t1$ on interpersonal trust. At the lowest level of trust, among individuals who say that people cannot generally be trusted, the increase in trust is 0.199 (s.e. = 0.008, $t = 25.36$, $p < 0.0001$). Going from the lowest level of trust to the highest, the change decreases ($b = -0.254$, s.e. = 0.010, $t = -26.69$, $p < 0.0001$). The negative predicted value among the most trusting is presumably measurement-related, where these individuals could not select a higher value at $t1$ compared to $t0$.

Fig. 7: Differential change in interpersonal trust during the crisis.

Comment: The dependent variable is change in interpersonal trust from $t0$ to $t1$. The variable can range from -1 to 1, s.d. = 0.173, $n = 7184$. See SI, Table S10 (models 4-6) for additional details.

Discussion

Here we demonstrate that the coronavirus crisis has led to higher level of institutional and interpersonal trust among the Swedish public (hypothesis 1 and 2). This rally effect is stronger for trust in government authorities than for interpersonal trust in unknown others, but both types of trust have changed meaningfully as people have moved from the initial phase of the crisis to the acute phase of the crisis. Contrary to our expectation (hypothesis 3a and 3b), there is no evidence in our panel data that the Swedish public has polarized during the process; if anything, individuals who were less trusting at the initial phase of the crisis have responded more positively to events than the more trusting individuals have.

Rally effects with increasing public support for incumbent governments have been reported in snap opinion polls in many countries (SI, Table S11) and in systematic research across 15 EU member states (Blais et al., 2020). In addition to mapping trust formation processes with greater precision than in previous research, our study provides three new important insights: (i) that the rally effect goes beyond politicians in power and government institutions that are directly responsible for crisis management (we measure generalized trust in government authorities); (ii) that the rally effect extends to interpersonal trust in unknown others; (iii) and that the rally effect is homogenous across lines of division, at the initial phase of the crisis.

That the study was conducted in Sweden has specific meaning given that the Swedish government has undertaken a unique “trust based” approach to crisis management (Paterlini, 2020). It shows that the public rally uniformly in support of an approach that rests upon voluntary compliance with regulations rather than on compulsory lockdowns of society. Moreover, it shows that public support can grow in the midst of a heated public debate about

crisis management, and even when substantial groups of citizens expressed distrust prior to the crisis. It is good news for the fundamental legitimacy of the Swedish democratic regime.

We cannot determine with certainty how far results generalize to other national contexts. As mentioned, the rally effect is found in countries around the globe. This suggests that three months into the pandemic, citizens might rally round the incumbent government independently of the choice of strategy for dealing with the coronavirus, and, possibly, independently of the democratic status of the regime. The commonly observed rally effect indicates that citizens typically have reacted to the coronavirus crisis as if it is an external threat towards their community, much like when at war (Mueller, 1970) or when hit by a terrorist attack (Dinesen & Jæger, 2013; Hetherington & Nelson, 2003). This is different from when natural disasters hit countries, when citizens are prone to turn against their government for failure to act effectively (Healy & Malhotra, 2009).

A possible causal mechanism leading to the rally effect is that in most countries political elites have signalled that they stand united in the fight against the pandemic. According to leading models for public opinion formation, consistent elite messages are expected to sway public opinion in the direction of the message (Zaller, 1992).

Importantly, the reasoning above concerns trust in institutions, not interpersonal trust in unknown others. In the absence of comparative information about citizen updates of interpersonal trust, we do not know whether the increasing support extend beyond incumbent governments in other national contexts than Sweden. To map changes in interpersonal trust is a matter of urgency for researchers and polling organizations as the coronavirus crisis evolves.

The study reported here is informative about public reactions during the first phases of the crises. When our survey ended, in mid-April, the acute phase of crisis was still at its peak. Since then countries have moderated the restrictions, and several have noted a stabilization or decline, even, in infected and dead cases. In parallel, emerging signs indicate that the crisis is evolving into an accountability phase, when strategies and measures are questioned and criticized by opposing political blocs (Kuipers & t'Hart, 2014) and/or investigative media (de Burgh, 2013; Kovach & Rosenstiel, 2014). This, in turn, will most probably counter the rally effect. However, to date, it is a positive story about the possibility of dealing with the consequences of the pandemic.

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