









## COVID-19 and orientations towards solidarity: the cases of Spain, Hungary, and Romania

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### ABSTRACT

Solidarity is core to Europe's societal organisation and was intensively addressed in recent research. Using data collected before and during the lockdown in spring 2020, we examine whether value orientations towards solidarity changed in three countries (Spain, Hungary, and Romania). Before the pandemic, people in Spain expressed higher solidarity than people in Hungary and Romania. Our argument claims that when facing uncertainty, people react negatively, and turn to egocentric values. However, successful state intervention decreases uncertainty and boosts solidarity. Personal experience of a crisis increases caring for others, at least in the short term. Our findings reveal increasing solidarity in Hungary and Romania and stagnant levels in Spain, thus decreasing the distance between these societies. Direct exposure to the virus and the negative experiences associated with it are related to higher solidarity but in different ways across countries. In Spain and Romania, personally knowing someone who is infected corresponds to higher levels of solidarity, while in Hungary being in confinement is associated with increased solidarity. The duration of the lockdown matters. In Romania and in Hungary, high levels of solidarity at the beginning of the lockdown decreased over time but started to increase again after several weeks into the lockdown.

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## Introduction

Solidarity has a long history as a key concept in the social sciences (Lahusen and Grasso 2018a; Koos 2019) and in the European history, playing a significant role in the development of welfare states post-World War II, in the development and expansion of the European Union (EU) (Dragalov *et al.*, 2016), being under scrutiny during recent societal crises (Aschauer and Mayerl 2019; Forno and Graziano 2019; Gerhards *et al.* 2019; Koos 2019) and, even more recently, in Europe's response to the Corona crisis. After two decades of almost complete freedom of movement within the EU, the economic recession at the end of the 2000s and the Corona crisis have led to borders being reinvented.

This paper inspects changes in orientations towards solidarity during the first COVID-19 lockdown, based on individuals' personal exposure and experience with the coronavirus. Drawing on de Beer and Koster (2009: 15–23; 211), solidary is based on attachment to and identification with others and can be defined as the concern for the well-being of others. We understand solidarity as a social value, a latent construct, underlying a set of declarations of caring for others, similar to work by Abela (2004) and Kankaraš and Moors (2009). Based on structural equation modelling, we construct factors that we use as indicators of solidarity at the individual level. Given our interest in observing country-level changes, we refer to country-level aggregates as 'contexts of solidarity', which indicate sets of values that are likely to be reflected in individual value orientations.

We contrast original data we have collected in April 2020 to European Values Study (EVS) data, collected in 2017–2018, in three countries characterised by different reactions to the pandemic crisis: Spain, Hungary, and Romania. Spain was amongst the first European countries hit by the virus and it suffered significant human losses from the very beginning. The Hungarian government used the crisis to consolidate its illiberal position, being accused of playing politics rather than dealing with the virus (Hegedus 2020). A sizable part of the Romanian diaspora (roughly two million people) resides in Spain and Italy, the two countries most heavily hit by the initial pandemic outbreak in Europe. Emotional effects may have placed Romania between Spain and Hungary in terms of the perceived incidence of pandemic, pushing the Romanian government to quick reactions, despite the low incidence of the pandemic. Regardless of such differences, by mid-March all three countries were under lockdown.

According to EVS data, the three countries have different contexts of solidarity. Over the last three decades, Spain transformed from an emigration to an immigration country, characterised by high levels of solidarity. Romania and Hungary experienced throughout their post-communist transition excessive nationalism and increasing inequality, being characterised by lower levels of solidarity.

While the literature addresses the effects of human-made crises (e.g. economic recessions, high migration flows, or populism) on solidarity (Koos 2019), pandemic situations such as the current one are less common and, as a result, less studied. In this paper, we start from the deeply rooted values characterizing the three countries included in the study and assess potential value changes at the individual and societal levels. We contribute to the existing literature on four distinct dimensions. First, we discuss what happens with orientations towards solidarity during a pandemic event. Second, we focus on Eastern and Southern European countries, areas that are less researched in terms of solidarity. Third, we inspect how being affected by the pandemic influences solidarity. Lastly, we consider the effect of the duration of the lockdown on solidarity.

We start by laying out the conceptual background for solidarity, value change, and collective crises. We briefly discuss data and methods and focus more on the results, indicating both differences and common trends. We conclude by discussing implications for contexts of solidarity across the continent, possible effects on policy design, the limitations of our research, and future research directions.

## Solidarity

In its essence, solidarity is the willingness to help others (de Beer and Koster 2009: 15), but through extensive use, the concept was stretched to cover multiple variations (Stjernø 2005; Ellison 2012; Wallaschek *et al.* 2020). The ambiguity persists despite recent attempts to refocus the concept (Ciornei and Recchi 2017; Lahusen and Grasso 2018a, b; Kuhn and Kamm 2019). Solidarity may be conceived in various ways, referring to the areas of manifestations (Koos 2019), to the manifestations themselves – including behaviours, levels, scope, forms, and roles of reciprocity (Wallaschek *et al.* 2020).

Since the scope of this study does not allow in-depth discussions of different approaches to solidarity, we limit our endeavour to a single dimension – value orientations towards solidarity – and document

changes during the spring 2020 lockdown. We focus on social values because they manifest through attitudes and behaviours (Jagodzinski 2004) and have the capacity to direct humans beyond the way we expect solidarity to act. In this way, we look beyond classifications and search for the latent, intimate mechanisms that lead to expressing solidarity within social, political or welfare boundaries.

Solidarity is intimately related to (imagined) communities and it might be delimited by geographies of identity and needs (Lahusen and Grasso 2018a). Hence, the scope of solidarity may slide on a continuum from the willingness to support and care for others in the immediate proximity, to a generic solidarity with the whole humankind. It also includes feelings of reciprocity, of safeguarding personal security through supporting others in the hope that other would support you when in need (De Beer and Koster 2009).

As we look for in-depth triggers for attitudes and behaviours, we are also searching for measurements that go beyond the boundaries of specific communities and value orientations are suitable for such an endeavour.

We focus on value orientations as measured in the fifth wave of the European Value Study (EVS) (2017–2018). They allow the assessment of solidarity with people included in one's inner circle, those in need, and people further away from the respondent's network. We interpret 'overall solidarity' as a general trait that explains caring for and willing to help these categories (Abela 2004; Rusu 2012; Voicu *et al.* 2013). Overall solidarity is the focal point for our approach, an in-depth, latent orientation towards being benevolent, empathetic, committed, and concerned with the fate of others. In this paper, we question if and how overall solidarity changed during the COVID-19 crisis.

### Value change, collective events, and Corona crisis

In recent years scholars have started analysing the stability of solidarity during crises and following such events. Aschauer and Mayerl (2019) found that social solidarity is likely to decrease during societal malaise, narrowing down the circle to which solidarity is confined. Other studies argued that periods of crisis are expanding the coverage of those worthy of solidarity and showed how crises can lead to increasing creativity in the manifestations of solidarity (Forno and Graziano 2019; Koos and Siebel 2019). These prior studies considered solidarity through its manifestations, either social, political or welfare related.

Advancing to the values driving solidarity, we address modernisation theory, salient to the discussion of value formation and value change.

Prolonged economic growth, argue modernisation theories, improve general living conditions and access to education and healthcare, allowing unprecedented human development and shaping value structures in the society (Inglehart and Welzel 2005). Modernisation, as a process, contributes to generating a level of security that reduces the psychological needs for absolute norms and the development of more personal value systems. At the core of these theories stands the socialisation hypothesis, which argues that change occurs slowly, mainly through socialisation processes during one's formative years. Value change happens through generational change and the assimilation of new material, environmental, and cultural conditions.

The theory was later updated, explaining observed value changes during adulthood as determined by exposure to institutional models (Beck and Beck-Gernsheim 2001). The institutionalisation assumption (Arts 2011) claims that, by observing the patterns provided by societal-level institutions and norms, people internalise the culture to which they are exposed and transform it into their personal values and preferences. From this perspective, one may raise the issue of culture's persistence when confronted with societal-level total events that threaten to change lifestyles and societal setups. The current pandemic is a perfect example of such an event.

Regardless of the perspective, a key question is whether periods of strong economic recession and situations of crisis and abrupt deprivation result in a return to more materialistic and less emancipative values due to the loss of security and the deterioration of material conditions (Inglehart and Welzel 2005). When people's living conditions are compromised, one may expect a feeling of loss of control over life and a strong prioritisation of personal security over caring for others. Uncertainty can be stopped from increasing by successful societal action, such as – in case of Covid-19 – governments taking measure to prevent the virus and efficiently containing the pandemic.

An event experienced collectively as traumatic reinforces solidarity and social trust relations, expanding the circle of 'us' (Alexander 2012). Facing circumstances of threat, urgency, and uncertainty, people develop coping strategies by readjusting their values. The social impact is immediate, including a boost in social trust, solidarity, and cohesion that reinforces social ties in situations of crisis and emergency (Lucini 2014). Institutional intervention might play a significant role in the

interaction discussed above. Efficient threat-containment and confidence in the success of collective action and of policies being implemented may increase solidarity due to instrumental, cognitive, and cultural motivations. The instrumental mechanism relies on the need to be protected by collective action. The cognitive dimension relies on understanding the functional aspects of solidarity. The cultural dimension is represented by the institutional effect, in which exposure to patterns of solidarity leads to internalising solidarity values.

## Hypotheses

Using insights from the sociology of values and from theories on cultural trauma we proceed to discussing our hypotheses. Successful state intervention is reinforcing security and reduces uncertainty, which boosts solidarity as an expression of modern and postmodern value orientations. It also offers an institutional pattern to be followed, as stated in the institutionalisation assumption. The literature on traumatic events suggests that bonding may be a natural reaction when faced with hazards. Summing up, when confronted with a massively traumatic event, such as the Corona crisis, people will tend to increase solidarity if a collective institutional reaction is efficient in containing the hazard and communicating with the public. The three cases we have selected are different in this respect. While Spain failed to prevent a surge in infections and deaths and was from the very beginning one of the most active centres of the worldwide pandemic, Hungary and Romania managed to contain the virus and their lockdowns were efficient in bending the curve during the first wave. Therefore, for Spain the two effects (increasing solidarity due to bonding when facing collective trauma and decreasing solidarity due to low containment of the virus) are likely to cancel each other. In Hungary and Romania, the two mechanisms go in the same direction. We expect (H1) *that solidarity increases more strongly in Hungary and Romania compared to Spain*. Nevertheless, H1 could be split into two parts, to test both mechanisms. However, due to current data limitations we preferred to keep it as such, and to observe the joint effect.

Direct experience provides a more specific context in which values change. Direct experience with Covid-19, either by being isolated somehow or personally knowing someone that had the virus, creates a more palpable experience than the one depicted by media. Therefore, following the argument on reciprocity as motivator, one needs solidarity to

increase personal feelings of security, and may manifest it in the same vein towards others. This is also in the line with the bonding argument, and leads to (H2), *if a person knows someone, in the ingroup, who is infected personally, this will increase general orientations towards solidarity*. Moreover (H3), *isolation increases solidarity*: if a person lives in quarantine or self-isolation (reflecting a personal experience of the crisis) this will increase solidarity. Both H2 and H3 are based on the considerations about traumatic events discussed above and on existing studies, which show that solidarity, reflected by support for welfare redistribution, is favoured more by those in risk (Arts and Gelissen 2001). There is evidence that solidarity towards outgroup members might decrease (Kooos and Siebel 2019), but with respect to orientations towards overall solidarity we do not expect such effect.

Finally, there is a question of time. One needs to consider the resilience and erosion of initial values when subjected to pressure. The longer the stress, the higher the uncertainty (Lucini 2014), and the higher the probability of a return to materialistic values (Inglehart and Welzel 2005). Therefore, (H4) *increasing duration of lockdown measures will decrease solidarity orientations*.

In terms of cross-country comparison, (H5) *higher initial levels of solidarity, such as in Spain, should be more persistent and less sensitive to the duration of lockdown measures*. A higher propensity towards solidarity before the crisis event reflects more intensive exposure to solidarity in practice and a deeper internalisation of value orientations towards solidarity. This should translate into a lower probability to change the context of solidarity in response to traumatic hazards.

## Data and methods

We rely on two data sources. The first is the most recent EVS wave, a cross-European survey including nationally representative samples in Spain (collected November 2017–January 2018), Hungary (February–August 2018) and Romania (February–May 2018). A full description of the datasets is available at <https://europeanvaluesstudy.eu/>.

The second data source is Values Under Pressure (VUP), a web survey designed by the authors and carried out in April–May 2020 in the three countries included in the study. The survey was advertised on Facebook and relied on snowball dissemination in Romania ( $N=1289$ ). In Hungary, the survey was based on Facebook ads and quotas ( $N=1628$ ). Spain collected the data through snowball ( $N=72$ ) and a probabilistic survey

( $N=600$ ). The questionnaire combined a sub-set of EVS items and Corona-related items designed for this study.

Solidarity orientations are measured through a common set of nine items indicating ‘To what extent do you feel concerned about the living conditions’: of regular people around (three items: people in your neighbourhood; the people of the region you live in; your fellow countrymen), of more remote individuals (two items: Europeans; all humans all over the world), and of people in need from the country of residence (four items: elderly people; unemployed people; immigrants; sick and disabled people). Each item was measured on a five-point scale and the answers for each item were independent of what was answered for the other items. Measurement invariance was proven across time and countries (c.f. Voicu *et al.* 2013). The score ranges from one to five across all countries and times being computed. This individual-level score is the dependent variable in our analyses. The average for the 2017–2018 data was 3.30 in Spain, 2.64 in Hungary and 2.86 in Romania. The battery was employed to measure solidarity in other work (e.g. Abela 2004; Kankaraš and Moors 2009), but one may argue that since concern is not a direct measure of willingness to help, and therefore does not cover entirely the meaning of solidarity. Given this is the best measure that we could access, we use it as such, with the mentioned caution.

Given that the VUP data come from non-probabilistic samples, Table 1 introduces unweighted statistics. A direct estimation of the aggregated levels of solidarity scores is not meaningful. However, when predicting solidarity with fundamental indicators of socioeconomic status, we can answer our research questions and test the hypotheses.

We pooled the datasets and estimated separate multivariate regressions for each country. We used education, gender, age, number of children, and marital status as confounders. We also used a dummy for the time of measurement (lockdown versus EVS 2017–2019), to test for changes. We considered cases as nested into the two surveys, EVS and VUP, and we also distinguished among the data collection modes in the case of Spain. We estimated the models using the mixed procedure in Stata 15. As a robustness check, we also considered VUP cases as nested into the day of data collection (while all EVS cases were assigned a single data collection day) not into the survey. However, the findings were almost identical.

For hypotheses H2–H5 we ran separate prediction models on the VUP samples for each country. For H2 we computed a dummy variable for knowing at least one infected person (family, friend, relative, neighbour,



**Table 1.** Descriptive statistics by sample (unweighted, not comparable across surveys in the same country).

Sample	EVS2017 ES		VUP2020 ES		EVS2018 HU		VUP2020 HU		EVS2018 RO		VUP2020 RO	
	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD
Solidarity index	3.33	0.77	3.29	0.77	2.64	0.84	2.90	0.89	2.75	1.00	3.21	0.81
Education												
Lower secondary or Below	0.41		0.10		0.24		0.24		0.31		0.02	
Vocational	0.07		0.00		0.34		0.21		0.21		0.02	
High school	0.18		0.45		0.14		0.21		0.26		0.43	
Post-secondary school	0.08		0.03		0.09		0.16		0.05		0.13	
BA	0.10		0.34		0.12		0.09		0.15		0.31	
MA	0.15		0.00		0.07		0.09		0.03		0.06	
Phd	0.01		0.08		0.00		0.01		0.00		0.03	
Year of birth	1968.20	17.68	1970.66	16.32	1969.10	17.97	1972.52	17.10	1970.89	17.84	1975.27	15.83
Woman	0.51		0.52		0.53		0.53		0.52		0.52	
HH size	2.40	1.20	2.90	1.18	2.78	1.38	2.62	1.34	2.94	1.60	2.97	1.66
# kids in HH	0.53	0.83	0.83	1.03	0.60	0.97	0.71	1.73	0.66	1.01	0.78	0.92
Marital status												
Married	0.44		0.54		0.45		0.40		0.59		0.60	
Cohabitation	0.05		0.11		0.05		0.08		0.03		0.04	
Widow	0.09		0.03		0.11		0.07		0.11		0.04	
Divorced	0.07		0.08		0.11		0.14		0.05		0.09	
Separated	0.05		0.01		0.02		0.04		0.01		0.01	
Never married	0.30		0.23		0.27		0.27		0.20		0.22	
Covid times	0.00		1.00		0.00		1.00		0.00		1.00	
knows someone with Covid19			0.48				0.08				0.12	
at least in confinement			0.62				0.53				0.56	
Days since lockdown			52.58	1.01			45.58	16.76			20.71	2.40
Has job in normal times			0.62				0.68				0.68	
Has job in Covid19 times			0.51				0.49				0.46	
Working from home in normal times			0.15				0.09				0.15	
Observations	1211	672	1514	1585	2871	1243						

friend of a friend). Another dummy variable was used to test H3 and indicated whether the respondent experienced any form of preventive measure restricting movement (quarantine, self-isolation, home isolation, hospitalisation). To test the last two hypotheses, we computed a variable capturing the number of days since a national quarantine was declared to the day of data collection. In the main models, this variable is treated as continuous, but given its distribution, we also model it as categorical, to capture the nonlinear effects stated by H4.

While the significance of the coefficients should not be interpreted in non-probabilistic samples, we use significance levels to identify effects whose sizes warrant interpretation. Combining large samples and controls for demographic characteristics we mitigate some of the issues generated by the non-representative samples. Moreover, we also computed weights for the three VUP samples. To check for the robustness of our results we estimated the models both with and without weights and we also repeated our analyses by trimming out cases with high weights (larger than five). The results showed remarkable stability. Due to space limitations, we present only the results estimated in unweighted models. All the results are available, however, in the online appendix.

Another challenge stemming from the non-probabilistic nature of the VUP samples in Romania and Hungary is the possibility of our dependent variable to be related to selection into the samples. One could argue that individuals with high solidarity scores might also have more pro-social behaviours, which could lead to the VUP samples to be biased in the direction of higher solidarity by comparison to the EVS samples, even after controlling for education, age, and gender. To counteract this possibility, we considered association membership as a proxy for pro-social behaviours and restricted the EVS sample only to respondents who declared membership in at least one association. We then repeated our analyses and obtained almost identical results, offering support for the reliability of our findings.

## Findings

**Table 2** displays the main findings. The first three columns compare EVS data against VUP data in Spain, Hungary, and Romania, therefore testing for hypothesis H1. The remaining six columns, two for each country, are based only on the VUP data and test for hypotheses H2–H5. Each country is depicted by a pair of models, with the second one adding to the controls the working status of the respondent before and during lockdown.

**Table 2.** Multilevel models of general orientations towards solidarity.

	Comparing with 2017/2018					Only April 2020			
	ES1	HU1	RO1	ES2	ES3	HU2	HU3	RO2	RO3
Education (ref.=lower secondary or less)									
Vocational	-0.00	0.13***	0.09***	0.54	0.55	0.12	0.12	-0.78***	-0.78***
High school	-0.03	0.25***	0.25***	-0.18	-0.19 <sup>a</sup>	0.14	0.14	-0.63***	-0.63***
Post-secondary vocational	0.02	0.20***	0.13	0.24	0.27	0.08	0.07	-0.42**	-0.42**
BA	0.17**	0.29***	0.28***	-0.01	0.02	0.13	0.12	-0.54***	-0.56***
MA	0.18***	0.29***	0.32***	0.29	0.34	0.14	0.11	-0.52***	-0.54***
PhD	0.30***	0.55**	0.41***	0.17 <sup>a</sup>	0.22*	0.45 <sup>a</sup>	0.40	-0.41***	-0.44***
Year of Birth/100	-0.38*	-0.39 <sup>a</sup>	-0.78***	-0.71*	-0.71*	-0.60	-0.60 <sup>a</sup>	-0.73*	-0.73*
Woman	-0.00	0.04	-0.00	-0.02	-0.03	0.07	0.09	0.14**	0.14**
HH size	0.05***	-0.02	-0.02	0.05	0.05	0.02	0.02	0.03*	0.03*
# kids in HH	0.01	0.00	0.02	0.03*	0.04**	0.02	0.02	-0.05*	-0.06*
Marital status (ref.=married)									
Cohabitation	-0.08 <sup>a</sup>	0.00	0.02	-0.05	-0.05	0.11	0.10	0.09	0.09
Widow	-0.02	-0.02	0.05	-0.23	-0.26	0.04	0.04	0.27***	0.28***
Divorced	-0.11*	-0.08	-0.00	-0.21**	-0.22**	0.03	0.03	-0.02	-0.01
Separated	0.13*	0.03	0.27*	-0.14	-0.11	-0.01	-0.00	0.35 <sup>a</sup>	0.35 <sup>a</sup>
Single	-0.08*	-0.05	0.11*	-0.09	-0.13	0.05	0.06	0.02	0.02
CovidTimes: collected in April 2020	0.04	0.30***	0.18***						
Knows someone with Covid19				0.12 <sup>a</sup>	0.12 <sup>a</sup>	-0.01	-0.02	0.15**	0.14**
at least in confinement				0.04	0.03	0.07*	0.09**	0.05	0.05
Days since lockdown				-0.01	-0.01	-0.05	-0.04	-0.08	-0.08
Days since lockdown – squared				0.00	-0.00	0.00	0.00	0.00 <sup>a</sup>	0.00 <sup>a</sup>
Has job in normal times					0.12		0.02		0.03
Has job in Covid19 times					-0.22**		0.09		0.04
Normal times, working from home					-0.04		0.01		0.01
Observations	1805	2810	2457	630	630	1357	1357	1073	1073
Snijders/Bosker R-squared Level 1	0.05	0.06	0.04	0.03	0.13	0.09	0.05	0.04	0.05
Snijders/Bosker R-squared Level 2	0.08	0.15	0.07		0.22	0.99	0.11	0.97	0.06
Bryk/Raudenbush R-squared Level 1	0.03	0.02	0.02	0.03	0.07	0.02	0.02	0.02	0.04
Bryk/RaudenbushR-squared Level 2	0.49	0.93	1.00		1.0	1.00	1.00	1.00	1.00

Significance levels: <sup>a</sup> $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

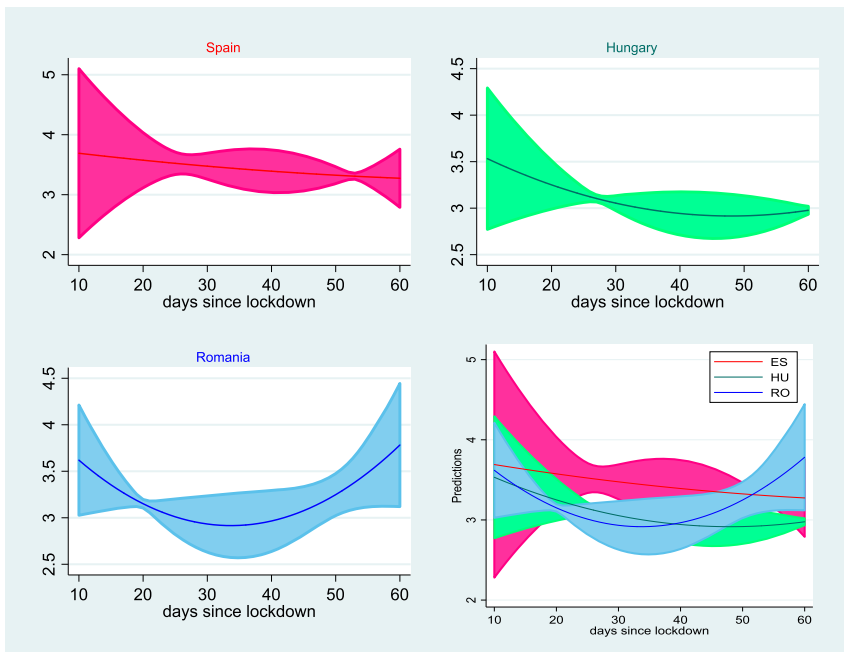


With respect to pre-COVID versus COVID times, the effects are positive in all countries, indicating a potential increase in orientations towards solidarity during the COVID-19 lockdown. The increase is very low – virtually null – for Spain, but it is higher for Romania and Hungary. The point estimates for the increase in solidarity are .30 in Hungary (approximately 1/8 of the 2018 value) and .18 in Romania (approximately 1/15 of the 2018 value). These results support H1: by comparison to the 2018 data, solidarity levels were higher during the Spring 2020 lockdown. This outcome is true only for Romania and Hungary, not for Spain. Where collective action was successful in containing or giving the impression the hazard was contained, coping mechanisms boost solidarity, as shown by the Romanian and Hungarian data. In the case of Spain, higher initial solidarity levels and difficulties in containing the virus and avoiding heavy human losses resulted in stagnant levels of solidarity. Results are robust to different modelling strategies and robustness checks, including controls for modes of data collection.

Knowing an infected person is associated with changes in solidarity levels only in Spain and Romania. The incidence of knowing someone with COVID-19 within the VUP sample was 48% in Spain, 12% in Romania, and 8% in Hungary. The differences between Spain and the two other countries are large enough that they are meaningful despite the non-probabilistic samples. The strong migratory link between Romania and Spain might explain why hypothesis H2 hold in these countries, but it does not explain why the effect is similar in size: the solidarity score increases by .12 points in Spain and by .14 points in Romania, while in Hungary the effect is practically zero.

We also considered experiencing isolation, in various forms, as a predictor. In each of the three countries, about 60% of the VUP sample was in isolation. Hypothesis H3 is offered support only in Hungary, where higher solidarity is observed for those in isolation, all other effects being controlled. The difference is smaller than the one observed in Romania and Spain for knowing an infected person, which can be explained by the proximity of the threat, but it is still quite substantial. In Spain and Romania people under isolation show slightly higher levels of solidarity by comparison to those who have not been isolated, but the difference is quite low.

**Figure 1** predicts the evolution of solidarity over time, depending on the number of days since the beginning of the quarantine. We observe stability in Spain, as expected according to hypothesis H5. Hungary exhibits a smooth decrease, close to stability, contrary to expectations raised



**Figure 1.** Changes in solidarity levels depending on time since lockdowns were established (predictive margins with 95% CIs).

by hypothesis H4. If we model time since lockdown as a categorical variable, the effect in Spain is almost null, Hungary shows an initial decline followed by an increase, while the pattern in Romania is decline – increase – small decline. Increasing the number of categories for the time variable confirms the curvilinear relationship in Romania and Hungary as well as the stability observed in Spain.

The high level of solidarity characterizing Spain before the COVID-19 crisis is probably responsible for the stability observed over time. Romania and Hungary show quite similar patterns, both in terms of contexts of solidarity and with respect to the incidence of the virus. In both cases, the initial levels we estimated post-factum were not only higher by comparison to 2018, but also by comparison to what we observed after several weeks have passed.

Romania displays the hypothesised trajectory: the initial increase of the early days of quarantine loses power after a few weeks and then remains stable. The point estimates on the right side of the figure are slightly above the 2018 levels, but with overlapping confidence intervals, leading us to conclude that after a month of lockdown the solidarity

levels returned to their usual levels and remained at that level. The estimate for the early days of the lockdown was 1.5 larger than the levels observed in 2018. The difference is large on the solidarity scale, and it is rather unlikely to be due only to natural increase and sample selectivity. The observed function is quadratic and U-shaped, leading to an expectation of an additional increase in solidarity.

In Hungary it is possible that a quasi-xenophobic discourse related to the pandemic outbreak was responsible for capping the solidarity increase in the initial stages of the crisis. The first cases reported in the country were two Iranian students in the Budapest area, a British man (married to a Hungarian woman and living in Debrecen), friends and family of the three initial cases and the old father of a son who visited Italy. The two Iranians received considerable public attention. As the crisis advanced, a total of 19 Iranian university students were accused of alleged violations of quarantine rules and were later expelled from Hungary for this reason. With so many foreigners involved, it might be that in Hungary solidarity was prevented from increasing as it would have normally done. However, this interpretation was at the top of the public agenda just for the first few days of the pandemic. Public discourse moved rather soon to focusing on other issues. As shown in our models, solidarity followed the same pattern as in Romania, but milder in the mid-term decrease and in the later increase.

## Discussion

Our study illustrates that orientations towards solidarity are volatile, when facing a potential for collective trauma. More precisely, as stated by (H1), we found solidarity to be resilient in Spain, a society characterised by high levels of solidarity before the health crisis, and we observed an increase in solidarity in Romania and Hungary, societies characterised by lower levels of solidarity during normal times. Personally experiencing the exposure to the virus (H2) and its consequences (H3) also matters, leading to increases in solidarity, probably due to the salience of threat and its proximity. Lastly, time spent under lockdown proved unimportant in Spain, while in Romania and Hungary the relationship seems to be non-linear: orientations towards solidarity were higher during the first weeks of the lockdown, then decreased up to a certain point (about 30 days into lockdown) and then start to increase slowly (H4 and H5).

Comparing 2018 levels to the 2020 measurements, we reached results that were quite robust to changing the estimation setups and running

models in various scenarios (they are all available in the online appendix). While we are interested in estimating longer-term effects and in testing their stability over time, such analyses would require panel data and the surveys would need to be repeated as part of a more developed research programme. It might also be necessary to extend the research towards more societies and control for the daily incidence of COVID-19 and the presence of policy interventions.

Beyond such precautions, we bring evidence supporting the institutionalisation assumption in the sociology of value formation and change. The differences we have observed in the three countries can be related to different contextual characteristics, including the severity of pandemic events and the type of policy intervention. Personal life experiences within the pandemic context also proved to be relevant for increasing solidarity.

The results in Romania and Hungary are consistent with observations that solidarity may increase during societal crises (Koos and Seibel 2019). The result in Spain are opposite, since we do not observe an increase in solidarity, which is consistent with Aschauer and Mayerl's (2019) observations on solidarity reactions during human-made crises to narrow down solidarity with others. At this time, we do not have data to test such an assumption. The result underlines the need for further research to test whether, as a result of the highly stressful situation lived during the weeks of lockdown and the strong incidence of the virus in Spain, people tend to withdraw towards their inner circles and prioritise family and close contacts over community.

Considering the possibility of the current pandemic event to evolve into multiple waves or the possibility of future pandemic events, practitioners and decision makers might find important lessons in our findings. While no connection has been established yet between lockdown policies and COVID-19 mortality rates (Bjørnskov 2020), one may be interested to understand how the policies that are being implemented affect society beyond their health implications. Quick intervention and containment of the virus were found to be associated with increases in solidarity. The implication is potential support for redistributive policies, particularly immediately after the lockdown. As the effect fades over time, decision makers willing to implement redistributive measures may consider being prepared with such policies early on. In societies with higher solidarity levels (such as Spain), solidarity proved to be highly resilient. In such contexts, orientations towards solidarity provide a solid base for policy interventions.

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