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Compliance with rules and future uncertainty related to the COVID-19 pandemic: trust in government, trust in science, and perceived threat

Roberta Riverso^a, Mario Amato^a, Fabio Verneau^a, Francesco La Barbera^a

^aDepartment of Political Science, University of Naples Federico II, Naples, Italy

Abstract

During a pandemic, a high level of compliance by citizens with prevention guidelines provided by the Government and scientists is important in order to slow the spread of the virus; nevertheless, there is evidence of people ignoring government and scientists' recommendation all over the world. In addition, the COVID-19 outbreak, and the mitigating measures as well, have had huge negative effects on citizens' everyday life, including confinement, separation of families and friends, restriction of movement and personal freedom. These factors, together with the unpredictable duration and likelihood of resurgence of the pandemic, contribute to future uncertainty. The aim of current research is to contribute to the understanding of citizens' compliance with rules and future uncertainty related to the COVID-19 pandemic. We explored the relations—scarcely investigated so far—of compliance with rules and future uncertainty with three possible antecedents: trust in government, trust in scientists, and perceived threat. In addition, regarding the last factor, two dimensions have been distinguished, namely perceived seriousness and perceived probability of the threat. Results suggest that compliance is positively associated with trust in government, whereas future uncertainty is negatively correlated with trust in scientists. Perceived threat correlates with both compliance and uncertainty, and the association with perceived seriousness is larger than with perceived probability.

Keywords: COVID-19; perceived threat; trust in government; trust in science.

*Corresponding author.

Francesco La Barbera
Department of Political Science
University of Naples Federico II
Via Rodinò 22, 80138, Naples, Italy
Phone: + 39 0812538108
E-mail: francesco.labarbera@unina.it
(F. La Barbera)

Introduction

Starting from December 2019, the COVID-19 outbreak has spread worldwide, leading the World Health Organization to declare a global pandemic. The first Italian case was observed on February 21, 2020; after that, the outbreak rapidly became a very serious problem in Italy, that has been one of the most affected countries in the world (Lanciano et al., 2020). In order to contain the spread of the virus and to prevent a collapse of the national healthcare system, on 11th March 2020 the Italian Government imposed a national lockdown—the so-called Phase 1. Phase 2 (4th May – 15th June) was characterized by less severe restrictions. The Summer season was accompanied by Phase 3, when indoor and outdoor activities has been again permitted, under the observance of health protocols. Starting from 13th of October, the so-called second wave of the outbreak took place, therefore, new measures were introduced for the containment and management of the epidemiological emergency from COVID-19 (Decree Law n. 2 of January 14, 2021; DPCM of January 14, 2021), establishing that Regions and Autonomous Provinces had to be classified into four areas, based upon the epidemiological data available and indications of the Control Room (DM April 30, 2020). Each area corresponds to different epidemiological risk scenarios and levels: the most restrictive measures are concentrated in the red area, referring to the Regions and Autonomous Provinces with a scenario of maximum severity and a high level of risk; in the orange area, including the Regions and Autonomous Provinces with a high severity scenario and a high-risk level, there are slightly less restrictive measures; in the yellow area there are general restrictive measures; in the white area there are virtually no restrictions.

Compliance with the outbreak-mitigation measures

In all phases of the pandemic, several prevention measures were steadily recommended by the Government through an unprecedentedly massive public health campaign to slow the spread of the virus: hand washing, wearing masks and physical distancing. Together with vaccination and efforts to develop medical treatments, restriction measures have been considered key. A high level of compliance by citizens with prevention guidelines is thought to be necessary to slow the spread of the virus (Anderson et al., 2020); unfortunately, evidence has been shown of people ignoring Government and scientists' recommendation all over the world (Bhanot, 2020).

The first aim of current research is to contribute to the understanding of the factors which influence citizens' compliance with outbreak-mitigating measures; on the practical side, the knowledge gained through the study should be useful for drawing suggestions to increase compliance and combat uncertainty.

Perceived threat might be an important predictor of compliance with measures aimed to contain the COVID19 pandemic. Perceived threat is defined as the beliefs that an individual has about a danger that exists in the environment (Witte, 1994), for themselves or for others. Research has shown that those who are more concerned are more likely

to adhere to health protection measures (Chen et al., 2007; Maughan-Brown & Venkataramani, 2018). Recent studies found this relation also in the case of measures against COVID19 (de Bruin & Bennett, 2020; Plohl & Musil, 2020). However, as regards COVID19 pandemic, it is important to highlight the difference between the perceived seriousness and perceived probability of a threat. Slovic (1987) has shown that events with high catastrophic potential, characterized by low probability and serious consequences, are evaluated as more threatening than less catastrophic events, that are more likely to occur, although less serious. It is also important to note that the aversion to dread risk has been found to be higher when fatalities regard young people, rather than older people (Bodemer et al., 2013); this could be relevant in relation to the COVID19 outbreak, which imposed the greatest load on the elderly. Therefore, the perceived seriousness and perceived likelihood of getting sick with COVID19 might differently affect individuals' compliance with restriction measures. Unfortunately, there is a lack of research on the point, mainly because research on the relation between perceived risk and compliance with measures has been conducted without distinguishing between seriousness and probability, using composite measures instead (e.g., Dryhurst et al., 2020; Plohl & Musil, 2020). Hence, in the current study we sought to evaluate separately the association between perceived seriousness and probability of risk on the one hand, and compliance with restriction measures on the other.

Citizens' trust in government is another important predictor of compliance with prevention rules. Previous research has shown significant correlation between trust in government and compliance with recommendations about social distancing, health care, vaccination in relation to several outbreaks (Blair et al., 2017; Morse et al., 2016; Vinck et al., 2019), whereas a lack of trust is associated with negative effects (Alsan & Wanamaker, 2018). In the same fashion, recent cross-national studies on the Covid19 pandemic found significant associations between political trust and compliance to health-protecting behaviors and restriction policies (Han et al., 2020; Bargain & Aminjonov, 2020; Lalot et al., 2020). Bargain and Aminjonov (2020) further suggest that the trust effect is nonlinear, because increases with the stringency of the mitigation measures imposed by the government. As regards Italy, in a survey comparing representing samples of 23 European and non-European countries, Italian participants scored medium to low on compliance with self-protecting measures, very low on trust in government (Han et al., 2020). The association between trust in government and compliance with mitigation measures in Italy has not been directly investigated so far; nevertheless, Cecalupo and colleagues (2020) found a significant positive association between the attitude towards Italian Prime Minister and perceived effectiveness of restriction measures.

However, trust in government is likely to be only one aspect of social trust which is relevant in times of COVID-19 pandemic. Trust in science and scientists, that is, the belief that scientists are capable of understanding and effectively combating the virus, may be an important antecedent of people's compliance with restriction rules (Van Bavel et al., 2020). Research has steadily shown that sources perceived as credible, trustworthy, and expert are the most persuasive

(Briñol & Petty, 2009; O’Keefe, 2016). Unfortunately, fake news and misinformation about COVID-19 have emerged and spread widely on social media, potentially jeopardizing individuals’ trust in science (Ellis, 2020; Frenkel et al., 2020). Some concerned the origins of the virus (Gertz, 2020), others suggest that conventional medical treatment should not be trusted, and that people should use alternative remedies (Sommer, 2020). Conspiracy theories have been shown to be associated with undesirable social phenomena, such as vaccine hesitancy, climate change denial, and prejudice (Jolley & Douglas, 2014; Lewandowsky et al., 2015; Jolley et al., 2020; Kofta et al., 2020). COVID-19 conspiracy theories may reduce trust in science and individuals’ motivation to comply with scientists’ recommendations. Noticeably, in a study conducted in ten countries across Europe, Asia and America, Dryhurst et al. (2020) found that there is a significant relation between perceived threat, trust in government and trust in science. Nevertheless, the association between trust in scientists and compliance with rules in relation to COVID-19 in the Italian context has not been studied so far.

Finally, several socio-demographic variables have been shown to play a significant role in relation to compliance with restriction measures. Women, richer, older, and more educated people seem to better adhere to mitigation rules (Atchison et al., 2020; Clark et al., 2020; Zhang et al., 2020); therefore, we included these four variables in our study.

The COVID-19 pandemic and future uncertainty

Beside compliance with recommendations and rules aiming to mitigate the outbreaks, we want to focus here on a second factor which seems to be very relevant, even if less explored so far, namely individuals’ uncertainty about the future due to the COVID-19 pandemic.

The COVID-19 outbreak, and the mitigating measures as well, have had huge negative effects on citizens’ everyday life, including confinement, separation of families and friends, restriction of movement and personal freedom, together with a destabilizing impact on educational systems throughout the world (Gilead & Gideon, 2021; Lalot et al., 2020; Losada-Baltar et al., 2020). Therefore, the negative consequences of this pandemic go beyond physical illness, with important psychological and social stressors such as limited interpersonal contact, isolation, fear of illness, eating disorders, future uncertainty, and financial insecurity (Abbiati et al., 2020; Clauw et al., 2020; Flesia et al., 2020). Uncertainty is fueled by the massive media coverage, often reporting conflicting information, and different rules in different region of the Italian territory; furthermore, the unpredictable duration and likelihood of resurgence of the pandemic contribute to future uncertainty (Liu et al., 2020; Orrù et al., 2020; Polizzi et al., 2020; Wang et al., 2020).

The extreme uncertainty related to the COVID-19 pandemic—together with the unemployment crisis (Blustein et al., 2020) the exclusion of the youngsters from the world of work (Wanberg et al., 2020; Zammitti, 2021) and economic crash across industries and countries (Fernandes, 2020)—may provoke devastating consequences (Chater, 2020; Lazzarini

& Putoto, 2020). In a recent qualitative study, Williams et al., (2020) showed that the reductions in social interaction, income and daily routine may led to psychological and emotional issues, such as the loss of motivation, and reduced sense of meaning. A central concern for participants was the uncertain duration of the restriction measures.

From an economic point of view, the impact of COVID-19 seems to be very deep on individuals’ insecurity about the future of economy and this, in turn, jeopardizes the chances of economic recover. Using three forward-looking uncertainty measures – stock market volatility, newspaper-based economic uncertainty, and subjective uncertainty in business expectation surveys – Baker and colleagues (2020) have documented an enormous increase in economic uncertainty due to COVID-19, also assessing that about half of the forecasted contraction in U.S. real GDP would reflect a negative effect of COVID-induced uncertainty.

COVID-19 related future uncertainty seems to be ubiquitous and to affect many aspects of individuals’ lives, and their active planning of the future as well. For example, research suggests that the future uncertainty related to COVID-19 is changing people’s food priorities (Laguna et al., 2020), increasing stockpiling (Micalizzi et al., 2021), and is showing a negative effect on marriage intentions of individuals in a romantic relationship (Guetto et al., 2020).

For the aforementioned reasons, it emerges the idea that much of the impact of COVID-19 pandemic, as well as the chance of recovering for both the individual and society, are affected by people’s insecurity about the future, especially among older adults (Ishikawa, 2020).

The relevance of people’s uncertainty about their future have been highlighted also in the Italian context (Sebri et al., 2021), which is directly involved in the current study. However, the antecedents of COVID-related future uncertainty have been not investigated in Italy, nor in other countries. Therefore, the second aim of the current study is to explore the relations between COVID-related future uncertainty on the one hand, and perceived threat, trust in government, trust in science on the other hand, that have been scarcely researched so far.

Aims and Hypotheses

As already mentioned, the aim of the current study is to contribute to the scientific knowledge on the antecedents of two phenomena, which are individually and socially relevant in times of COVID-19 pandemic: 1) compliance with COVID-19 pandemic mitigating measures (*compliance*) and 2) Covid-related future uncertainty (*uncertainty*). We selected three factors that are likely to have significant relations with compliance and uncertainty, about which we formulated the following hypotheses:

H1: we expect a significant and positive association between compliance and trust in government;

H2: we expect a significant and positive association between compliance and trust in science;

H3: we expect a significant and negative association between uncertainty and trust in government;

H4: we expect a significant and negative association between uncertainty and trust in science;

H5: we expect a significant and positive association between perceived threat, compliance, and uncertainty; stronger for the seriousness component than for the probability component.

In the following sections, statistical analyses were performed using SPSS 26 (IBM). The accepted level of significance of the null hypothesis test was set at $p < .05$.

Materials and Methods

Participants

A questionnaire was administered to a convenience sample of Italian people during the first two weeks of September 2020. Participants were recruited using a Facebook advertisement and other social media networks. Since we had to explore the factorial structure of multi-item measures, and general rules of thumbs suggest a minimum of subjects starting from 100 (Mundfrom et al., 2005), we aimed to collect a number of participants doubled compared to this suggestion. Therefore, a total of 201 participants (120 females; Mage=33.89; SDage=12.0) were recruited for completing the questionnaire, which was anonymous. All participants completed an informed consent form before filling out the questionnaire and did not receive any payment. The research protocol was approved by the Review Board of Psychological and Social Research Lab R. Gentile, Federico II University of Napoli, research protocol number 0252021. Table 1 outlines the descriptive statistics of the sample.

Tab. 1. Descriptive statistics of the sample

Characteristics	Frequency	Sample (%)
Gender		
Male	81	40.30
Female	120	59.70
Age		
18-24	40	19.90
25-34	94	46.77
35-44	23	11.44
45-54	26	12.94
55-64	14	6.97
More than 65	4	1.99
Education		
Middle school	6	2.99
High school	63	31.34
Vocational education	48	23.88
Bachelor-level	72	35.82
Graduate	12	5.97

Characteristics	Frequency	Sample (%)
Income per month (euros)		
<1000	27	13.43
1001 – 2000	77	38.31
2001 – 3000	48	23.88
3001 – 4000	25	12.44
More than 4000	24	11.94

Measures

The questionnaire contained 15 items with 7-points response format measuring 5 constructs: perceived threat, trust in government, trust in science, uncertainty, and compliance.

We measured participants' compliance with prevention measures by the following item: "Overall, to what extent do you act in accordance with the COVID-19 prevention guidelines (washing hands, wearing masks, physical distancing)?" (Plohl & Musil, 2020). Two items were used for measuring perceived threat, one for each of the two components of perceived threat: "How serious do you think it is to get sick with COVID19?", for the seriousness component; "How likely do you think it is that you will get COVID19 in the next 6 months?", for the probability component.

We used multi-item measures for the other three constructs, namely trust in government, trust in science, and future uncertainty. Drawing on previous studies (Dryhurst et al., 2020), we selected a set of 12 items. An exploratory factor analysis (EFA) was run to explore the dimensionality of the instrument, the relationships between the instrument items and components, and whether multi-item measures reflected the intended constructs. The EFA (method: maximum likelihood; rotation: oblimin), yielded three factors with eigenvalue > 1 (Factor 1=3.84; Factor 2=2.84; Factor 3=1.13), accounting for 61% of total variance. The Kaiser–Meyer–Olkin Measure of Sampling Adequacy was .791 and the Bartlett's Test of Sphericity was 812,797 ($p < 0.001$), indicating that the dataset was factorable. These three factors reflect indeed the three constructs that we aimed to measure, namely trust in science (factor 1), future uncertainty (factor 2), and trust in government (factor 3), thus supporting construct validity. Factors and loadings (rotated solution) are summarized in Table 2.

Tab. 2. Exploratory Factor Analysis

Item	Factors		
	Factor 1	Factor 2	Factor 3
How confident do you are in scientists' understanding of the coronavirus/COVID-19?	.993		
How much do you trust scientists' skills to effectively fight the pandemic?	.716		
I expect the situation to worsen due to unpredictable events (e.g., virus mutation)		.761	
Covid19 is just out of control, nobody really knows how it will turn out		.688	
It is not possible to predict when we will be able to say that the Coronavirus risk has passed		.664	

Item	Factors		
	Factor 1	Factor 2	Factor 3
The pandemic makes me feel uncertain about the future of economy		.574	
Coronavirus pandemic makes me feel uncertain about my future		.485	
Many things are kept secret from the public about Covid19		.439	
How much do you trust the ability of Italian politics to effectively fight the pandemic?			.747
Are the Government's strategies to combat the Coronavirus/COVID-19 clear?			.640
Do you think the restriction measures imposed by the Government to limit the spread of the Coronavirus can make a difference?			.614
The Government is interfering too much in our daily life			.479

Reliability was satisfactory for all three scales: trust in government (Cronbach's $\alpha = .71$), trust in science (Cronbach's $\alpha = .82$) and future uncertainty (Cronbach's $\alpha = .76$). The items were averaged, with higher values indicating higher trust in science and government, and high uncertainty about the future due to COVID-19.

Results

Mean scores, standard deviations and correlations between the study variables are provided in table 3. Both the dependent variables score above the theoretical midpoint; interestingly, as regards perceived threat, the perceived seriousness is higher than theoretical midpoint, whereas the perceived probability is lower. In line with our expectations, compliance is significantly and positively correlated with trust in science and trust in government, whereas uncertainty is correlated negatively with both of them. In addition, future uncertainty is significantly correlated with both dimension of perceived threat, whereas compliance correlate significantly only with seriousness.

Tab. 3. Correlations, means, and standard deviations of study variables

	1.	2.	3.	4.	5.	6.
1. Trust in Science	4.28 (1.52)					
2. Trust in Government	.572***	4.21 (1.30)				
3. Future Uncertainty	-.279***	-.215**	5.12 (1.08)			
4. Perceived Seriousness	.196**	.209**	.328***	5.67 (1.35)		
5. Perceived Probability	-.020	.019	.251***	.244***	3.81 (1.49)	
6. Compliance	.309***	.428***	.053	.315***	.040	5.30 (1.42)

Note. The table shows Pearson's r correlation coefficients. Diagonal cells report the variable means (standard deviations in parentheses). *** $p < .001$ ** $p < .005$.

For testing our hypotheses, compliance was regressed on trust in science, trust in government, seriousness, and

probability; we entered four statistical control variables, namely participants' gender, age, income, and education level (dummy coded: 1 = degree; 0 = otherwise).

In line with hypothesis H1, trust in government was significantly associated with compliance, whereas trust in science was not, thus not supporting hypothesis H2. In line with hypothesis H5, seriousness was significantly associated with compliance, whereas probability was not. Also gender and age emerged as significantly associated with compliance, suggesting that women and older participants were more compliant with the COVID-19 restrictions. The model explained 28% of total variance. Results are summarized in table 4.

Tab. 4. Stepwise regression analysis: Compliance

Predictor	b	t	R^2
Step 2			.277***
Trust in Government	.362***	4.761	
Trust in Science	.067	.880	
Seriousness	.171*	2.496	
Probability	-.010	-.150	
Gender	.144*	2.213	
Income	-.070	-1.079	
Degree	-.020	-.318	
Age	.170**	2.632	

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

As regards uncertainty, a second regression model was run with trust in science, trust in government, seriousness and probability as predictors; again, we entered participants' gender, age, income, and education level as control variables.

Contrary to results of the previous model, trust in government was not significantly associated with uncertainty, thus not supporting hypothesis H3. Trust in science, instead, had a significant and negative association with uncertainty, supporting hypothesis H4. As regards perceived threat, both seriousness and probability significantly predicted uncertainty; however, the effect of seriousness is larger than the effect of probability, thus supporting hypothesis H5. Gender, age and education played a significant role: women, younger, and not graduated participants show higher uncertainty for the future. The model explained 38.5% of total variance. Results are summarized in table 5.

Tab. 5. Stepwise regression analysis: Future Uncertainty

Predictor	b	t	R^2
Step 2			.385***
Trust in Government	-.116	-1.649	
Trust in Science	-.246***	-3.507	
Seriousness	.326***	5.156	
Probability	.132*	2.224	
Gender	.251***	4.199	
Income	-.075	-1.254	
Degree	-.123*	-2.090	
Age	-.162**	-2.718	

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

Discussion and conclusions

The aim of the current study was to gain a better understanding of compliance with rules and future uncertainty related to the COVID-19 pandemic. We explored the relations of these two variables of interest with three possible antecedents: trust in government, trust in scientists, and perceived threat. As regards the last factor, two dimensions have been distinguished, namely perceived seriousness and perceived probability of the threat.

Trust in government and trust in scientists seem differently associated with the dependent variables of the study: results show that compliance is positively correlated with trust in government, whereas future uncertainty is negatively correlated with trust in scientists. The positive association between trust in government and compliance with restrictions is expected and in line with previous research; the absence of a significant association with participants' uncertainty for the future need to be better understood by further studies. It may reflect that, while the questionnaire items made specific reference to the national government, participants' uncertainty regards globalized issues—such as the economic crisis and the end of the outbreak—which are perceived as out of the control of the single national government. The significant effect of trust in scientists may be interpreted in a similar fashion: science is not limited by national borders, and during the pandemic scientists have clearly shown—also through a massive presence on media—the global connection and cooperation among them. Impressive results, like creating several effective vaccines in less than one year, have been attributed by scientists and media to this global communication and cooperation. Therefore, our findings suggest that people who trust scientists could be more confident in the future and in the possibility of final solutions that science could find. Noticeably, recent research shows that trust in science is generally rising (Bromme et al., 2022). Nevertheless, those who consider scientists as untrustworthy, especially those who adhere to conspiracy theories, are more likely to perceive the future with a higher sense of danger and uncertainty. Hence, institutions might combat citizens' future uncertainty and its huge negative consequences with communication strategies enhancing trust in scientists. This point recalls a wider issue related to the so-called COVID-19 *infodemic* on new media and social media, and its impact on public engagement with health and science controversies, which however falls out of the scope of the current paper (see, for an updated overview, Nguyen & Catalan, 2020).

As we hypothesized, results show that perceived threat is significantly associated with both compliance with mitigation measures and uncertainty. In line with previous research, results suggest that the influence of perceived seriousness on both dependent variables is larger than the influence of perceived probability. In addition, the overall role played by perceived threat seems to be more relevant for future uncertainty than for compliance. These results raise several questions on communication emphasizing perceived threat: as our results show, raising perceived threat could improve citizens' compliance with rules, yet at the same time it could increase their uncertainty and insecurity about the future—an undesirable outcome, which may have serious negative consequences at the individual, economic and social level,

as we discussed in the introduction sections. Furthermore, previous research has shown that perceived threat tends to foster protective behaviors only by individuals with high perceived efficacy (Ruiter et al., 2014). Therefore, an important point for institutional communication would be to find strategies to improve perceived self- and collective efficacy in citizens; relying on showing epidemiological data might raise the perceived threat but not the sense of control, thus mostly fostering denial rather than active behavioral strategies (Witte, 1994).

In line with previous research, women and older participants seem more compliant with rules and more insecure about future. The age effect is of particular interest: older participants may simply feel most vulnerable (Atchison et al., 2020); in addition, however, the enhanced compliance and insecurity of older participants may be due to media's narratives focused on data which emphasize the risk of older people (Brown, 2020). Higher education, finally, seems to provide better skills to cope with uncertainty.

The study presents several limitations. The convenience nature of sample is maybe the most problematic, which limits the generalizability of findings. Future research might fruitfully explore the relations between perceived threat, trust in government and scientists, compliance, and uncertainty in relation to COVID19 outbreak on a representative sample of the Italian population. Cross-national comparisons could be interesting as well. In addition, the convenience sample has completed the questionnaire in a specific moment of the outbreak, which has undergone very different phases and is still ongoing, with different characteristics as regards seriousness of the disease, pressure on health services, restriction measures, and so forth. Even if the study adopts a measure of perceived risk—distinguishing between perceived probability and perceived seriousness—thus measuring individuals' concern about the current status of the outbreak, caution should be used to generalize the study findings for the aforementioned reasons. In other terms, the significant relations found in the current study, which are derived by self-report measures administered to a convenience sample in a specific moment of the outbreak, should not be taken for granted as regards other phases of this outbreak or other pandemic events. The generalizability of findings could be an interesting object for future studies.

A second limitation regards the measurement of perceived threat, which was carried out by two items, one for each sub-dimension (probability/seriousness). Even if single-item measures are widely utilized in psychological and social research, multi-item measures could be more reliable in investigating the differential consequences of perceived seriousness and probability of threat on compliance and future uncertainty.

Finally, we would like to suggest that an excellent future research avenue may include an experimental investigation about the effectiveness of communication strategies based on the current study's findings. Scientific communication and communication of science seem to have a key role in mitigating social insecurity and future uncertainty; furthermore, the strategy of communicating science and scientific processes of co-building evidence and truth affect people's attitudes and trust in science (Bronne et al., 2022; Kreps & Kriner, 2020) and there is evidence of significant correlations between trust in science and perceived risk (Entradas, 2021). Shedding light on the complex

interplay between trust in science, perceived risk and future uncertainty, assessing at the same time effective communication strategies to foster positive attitudes and trust in science and scientists, may be key to support institutional communication in time of crisis.

Author Contributions

The authors contributed equally to this manuscript.

Compliance with Ethical Standards

Conflict of interest

The authors declare that they have no competing interests.

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Ethical approval

The study was conducted according to the guidelines of the Declaration of Helsinki, and the ethical guidelines provided by the American Psychological Association (www.apa.org). The research protocol was approved by the Review Board of Psychological and Social Research Lab R. Gentile, Federico II University of Napoli, research protocol number 0252021.

Informed consent

Informed consent was obtained from all individual adult participants included in the study

Data availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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