Empathy, Fear of Disease and Support for COVID-19 Containment Behaviors: Evidence from 34 Countries on the Moderating Role of Governmental Trust

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Article

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Abstract

The current study investigated the motives that underlie support for COVID-19 preventive behaviorsin a large, cross-cultural sample of 12,758 individuals from 34 countries. We hypothesized that the associations of empathic prosocial concern and fear of disease, with support towards preventive COVID-19 behaviors would be moderated by the individual-level and country-level trust in the government. Results suggest that the association between fear of disease and support for COVID-19 preventive behaviors was strongest when trust in the government was weak (both at individual and country-level). Conversely, the association with empathic prosocial concern was strongest when trust was high, but this moderation was only found at individual-level scores of governmental trust. We discuss how both fear and empathy motivations to support preventive COVID-19 behaviors may be shaped by socio-cultural context, and outline how the present findings may contribute to a better understanding of collective action during global crises.

Introduction

The official proclamation of the global coronavirus (COVID-19) pandemic in March 2020 (World Health Organization, 2020) was followed by the institution of a variety of strategies to limit the spread of the virus among governments all around the globe. For instance, in many places, lockdowns were initiated, masks were mandated, social distancing enforced, while vaccination and isolation requirements were imposed (Hale et al., 2022). However, many citizens rallied against these public health mandates and recommendations, motivated by pseudoscientific claims and conspiratorial beliefs. Public mistrust in governmental measures and policies grew as a consequence, while masses of people refused to get a vaccine, or practice safe and preventive behaviors to contain the spread of the virus (including physical distancing, hand washing, or face covering) (Marinthe et al., 2020; see Ortega & Orsini, 2020).

The scientific quest to illuminate reasons why citizens across the world support or undermine safe and protective behaviors, came as a natural response to the global pandemic. Current evidence suggests that individuals may support or practice behaviors that prevent the spread of COVID-19 either for their self-interest (i.e., fear of becoming infected) (Capraro & Barcelo, 2020; Jordan et al., 2021; Kachanoff et al., 2021; Lee et al., 2020; Li et al, 2022; Lunn, et al., 2020; Rahman et al., 2021; Stuart et al., 2021), or for other-oriented prosocial reasons (i.e., fear of infecting others) (Christner et al., 2022; Harper et al., 2021; Legate et al., 2022; Wang et al., 2021). Yet, a deeper understanding on how individuals' motives may interact with their socio-cultural context conditions is lacking. Such understanding is relevant to identify effective ways to mobilize support for COVID-19 preventive practices. In particular, the research would benefit from gaining deeper insight on how the self- versus other-oriented concerns affect attitudes towards preventive behaviors of people with different levels of governmental trust (i.e., individuals with high versus low trust in the government) and people living in different socio-cultural contexts (where trust in the government is typically high versus low). The present study addresses this call and tests how trust in the government (both on individual and on country level) may moderate the relationship between self-

oriented fear and other-oriented empathic concerns regarding COVID-19 disease, with supportive attitudes toward the practice of COVID-19 containment behaviors.

Support for COVID-19 Containment Behaviors as Large-scale Cooperation

Mobilizing people to engage in large-scale collective activities is a complex, multifaceted and intricate problem. A core challenge may be the often uncertain or insufficient incentives for truly global cooperative activities. The incentives for large-scale cooperation are strongly dependent on the behavior of others, do not become evident immediately, and are directed toward a larger group rather than at a specific cooperation partner who could track, reward or reciprocate one's contribution (Bear & Rand, 2016; see also Rand et al., 2014). These concerns are also valid when cooperating against the spread of the COVID-19 pandemic, where a single individual's incentive depends on the unpredictable long-term activities of the society as a whole. Such constellation makes it especially complex to understand the mechanisms that enable individuals' engagement and persistence in large-scale cooperation. Moreover, some people may oppose preventive COVID-19 measures (such as limited gatherings, mobility restrictions), because they might perceive them as a restriction of personal freedoms that could extend well beyond the health crisis (e.g., state-controlled tracking of movements). Therefore, when it comes to supporting COVID-19 containment behaviors, some individuals might be confronted with a social dilemma where their concrete, short-term, and self-oriented interests clash with the more abstract, long-term and public health goals that can only be achieved through the (often untraceable) cooperation of all.

Evidence from prior studies suggests that compliance with virus mitigating behaviors is associated with both other-oriented concerns such as empathy and altruism (Capraro & Barcelo, 2020; Kachanoff et al., 2021; Lunn, et al., 2020; Pfatteicher et al., 2020) and self-oriented concerns such as fear of infection (e.g., Harper et al., 2021; Do The Khoa et al., 2021; Li et al, 2022). Research that examined both self- and other oriented motives simultaneously, generally found that other-oriented concerns were more influential than fear of COVID-19 in promoting the adherence of containment measures (e.g., Campos-Mercade et al., 2020; Christner et al., 2022; Jordan et al., 2021; Sætrevik, 2021). However, a recent study by Zirenko et al. (2021) found that caring for oneself played a more important role than caring for others when predicting individuals' decisions to physically distance in Russia, Azerbaijan, and China. We thus suggest that individuals' self-centered versus other-centered motives to support COVID-19 mitigating behaviors may be shaped by relevant (perceived) contextual conditions of individuals, with trust in the government being one of the most important factors.

Trust in the Government and Cooperation

Cooperation requires trust, especially when it involves unrelated others (see Cook & Cooper, 2003; Irwin & Berigan, 2013; Van Lange et al., 2017) and when it revolves around large-scale collaborations. People are particularly prone to coalesce in larger groups if they are motivated by trust toward key authority figures who regulate social norms (Gjoneska et al., 2019) like government officials, state representatives, renowned politicians (Harring et al., 2021; Norenzayan & Shariff, 2008; Yilmaz & Bahcekapili, 2016). It is

thus likely that governmental trust is crucial in motivating joint cooperative action to contain the COVID-19 pandemic. Yet, a notion that higher trust in the government is associated with higher (likelihood for) engagement in COVID-19 containment behaviors may not hold true unconditionally, despite the emergence of some supportive evidence (Coroiu et al., 2020; Han et al., 2021; Pagliaro et al., 2021). Namely, there is also evidence to suggest that the relationship between trust in the government and cooperative behaviors during the COVID-19 pandemic is less clear and seems more complex (Suhay et al., 2022; Trent et al., 2022). For instance, the research by Clark et al. (2020) with data collected from a large international sample found that trust in the government was not related to how much people reported to follow governmental recommendations, while it showed weak associations with taking private health precautions.

Hence, in the present study, we conceptualize trust in the government as a boundary condition that moderates the association between the support for COVID-19 containment behaviors with other-oriented (i.e., empathic prosocial concern) and self-oriented (i.e., fear of COVID-19) motives. Only when trust in the government is high, individuals would perceive their individual efforts to contain the virus as positive for the community at large, because preventing the spread of the COVID-19 pandemic would be perceived as a concerted effort and a shared goal by many. On the other hand, when there is no trust or little trust in the government, individuals would not expect that their individual compliance with public health measures will produce any public, other-oriented benefit, as they would not expect their contribution to be reciprocated by their government's actions and regulations. Therefore, we argue that higher trust in the government might facilitate empathy-driven cooperation, and thus strengthen the association between empathic concern and support for safe and preventive COVID-19 measures, while lower trust in the government might hinder the same.

Yet, people holding lower levels of trust may still cooperate, for different sets of reasons altogether. Compliance with safe and preventive COVID-19 behaviors has direct (beneficial) implications on the personal health, and may thus be considered as a self-protective act. In circumstances where trust in the government is low, people would feel more exposed, vulnerable and susceptible to the virus, and their cooperation could be more strongly driven by selfish concerns such as fear of COVID-19. Hence, low trust in the government may facilitate fear-driven cooperation, and strengthen the association between fear of disease and support for COVID-19 containment behaviors, while high trust in the government may alleviate the same.

The Current Study

The current study aims to investigate whether trust in the government can serve as a boundary condition on citizens' motives to support behaviors that prevent the spread of COVID-19 in a large, cross-cultural sample of 12,758 individuals recruited across 34 countries. The multinational nature of the present study adds to its robustness, as cooperation against the COVID-19 pandemic is not only determined by individual factors, but also shaped by the different socio-cultural conditions that exist across various societies. Such factors range from more general cultural and developmental differences

such as differences in the strength of social norms (e.g., cultural tightness vs. looseness), the level of education (e.g., years of schooling) and affluence (e.g., Gross Domestic Product per capita) to more specific COVID-19 associated differences such as differences in the health care system (e.g., number of hospital beds), the stringency of government policies, and the severity level of the COVID-19 pandemic (i.e., infection and mortality rates relative to whole population). As a matter of fact, societies across the globe have been experiencing the pandemic differently, facing unique challenges in mobilizing their citizens towards showing persistent cooperation against COVID-19. The present study embraces such diversity by conducting a cross-cultural investigation with data from societies that largely differ in their cultural, and socio-political properties (for an overview see Table 1). The 34 nations involved in the present research comprise both highly developed countries such as Australia, as well as countries with low human development such as Pakistan, covering a broad range of country-level affluence ranging from a GDP per capita of 4,000 USD and below such as in Bangladesh and Vietnam, to a GDP per capita of 50,000 USD and above such as in Germany and Singapore, and contain both countries that were severely affected by the COVID-19 pandemic at time of data collection such as Portugal with daily new confirmed COVID-19 related deaths of 28, as well as countries that were hardly affected by the pandemic with daily confirmed COVID-19 related deaths of 0 such as Australia, Vietnam, and Israel.

Nested within such different cultural and socio-political contexts, the present study tests how trust in the government may moderate the relationship between self-oriented fear and other-oriented prosocial concerns regarding COVID-19 disease, with the support for practicing COVID-19 containment behaviors and proposes the following pre-registered hypotheses (https://osf.io/k2wjr/?view_only=6937d44570bd4cf7844a298fc8d9bc0b):

Empathic prosocial concern is a stronger predictor for supporting COVID-19 containment behaviors (e.g., physical distancing, face masking, enhanced hygiene practices) among individuals with high levels of trust in the government compared to individuals with lower levels of trust **(Hypothesis 1a).** Conversely, fear of COVID-19 is a stronger predictor for supporting COVID-19 containment behaviors among individuals with low levels of trust in the government compared to individuals with higher levels of trust **(Hypothesis 2a).**

In addition to testing these two hypotheses on individual level, we further propose a moderating effect of country-level trust scores in such a way that individuals' empathic concern is a stronger predictor for supporting COVID-19 containment behaviors in contexts where trust in the government is generally high compared to contexts where trust is generally low **(Hypothesis 1b);** and that individuals' fear of COVID-19 is a stronger predictor for supporting COVID-19 containment behaviors in contexts where trust in the government is generally low compared to contexts where trust is generally high (**Hypothesis 2b)**.

Results

We first tested our hypotheses at the individual level with the pooled individual-level data nested within countries, and then ran an additional test with country-level scores of trust in the government extracted

from the World Values Survey (Haerpfer et al., 2022) as a moderating factor. Analyses were conducted with the program jamovi 2.0 (The jamovi project, 2021). For all material concerning the methods and measures, see the “Methods” section.

Individual Level Analyses

The overall dataset comprises complete responses from 12,758 individuals living in 34 countries. Table 2 illustrates the number of responses, information about participants’ age and their gender, and the descriptive statistics of the study variables per country. Table 3 shows the Pearson product-moment correlations for the study variables based on the pooled dataset. We conducted a multi-level linear regression model to estimate individual-level differences, nested within 34 countries. Specifically, we tested whether the association between empathic concern and fear of COVID-19 with the support for COVID-19 containment behaviors differs across people’s level of trust in their governments. The results of the multi-level analyses using the maximum likelihood estimator are summarized in Table 4.[1]

First, a null model without any predictors, and the support for COVID-19 containment behaviors as the only criterion variable, was implemented (Hofmann et al., 2000). In this model the ICC(1) for the criterion variable was 0.34, suggesting that 34% of the variance in supporting COVID-19 containment behaviors existed between the different countries (at Level 2), which justifies the use of a mixed-level approach that takes this between-level variance into account. In the second step, we ran a random coefficient model and entered the main effects of the predictor variables into our model; individuals’ trust in their governments, their empathic prosocial concern, and their fear of COVID-19. We used group-mean centering for these scores as grand-mean centering creates inappropriate level-1 estimators that reflect a mixture of within and between group variations (Enders & Tofighi, 2007). The analyses suggested that a higher level of trust in the government, more empathic prosocial concern, and stronger fear of COVID-19 were all significantly associated with stronger support to COVID-19 containment behaviors, with $p < .001$. In the next step, we repeated the same analysis using the random slopes model, as it is likely that the slopes (the strength of the effects) will vary across the different countries. This is because the different preconditions that exist across countries (i.e., number of daily infections; mortality rates; lockdown regulations, etc.) may affect how strongly the support for COVID-19 containment behaviors is associated with trust in the government, empathic prosocial concern, and fear of COVID-19. Results again confirmed the main effects of all three predictor variables, showing that they were significantly and positively associated with the support for COVID-19 containment behaviors, with $p < .001$.

In step four, the hypothesized two-way interactions were added to the regression model. First, we compared the deviance scores (calculated as -2*loglikelihood) of the random coefficient model with the main effects only (step 3) with the random coefficients model that also included the two-way interactions (step 4) to test whether one or the other model explained significantly more variance (Campbell & Kashy, 2002). The deviance score of the null model was 24,941. The deviance score of the alternative model including the interactions was smaller with 24,863. Results of the Chi-square test suggests that the difference between these two models was significant [c^2 (3, N = 12,758) = 78, $p < .001$], indicating that the

model including the interactions was significantly better at explaining the variance in supporting COVID-19 containment behaviors. The results for this regression model show that individuals' trust in their government significantly interacted with both the individuals' empathic prosocial concern and their fear of COVID-19 to predict the support of COVID-19 containment behaviors, with $p < .01$. We decomposed the significant interactions and examined the simple effects of empathic prosocial concern and fear of COVID-19 under low (-1*SD*), medium (mean) and high (+ 1*SD*) levels of trust in the government. Empathic prosocial concern significantly predicted the support for COVID-19 containment behaviors across all three levels of trust in the government. However, as illustrated in Figure 1, the effect of empathic prosocial concern was strongest when trust in the government was high ($\beta = 0.15$, $t(60.6) = 16.2$, $p < .001$, 95% CI [0.13, 0.16]), and weakest when trust in the government was low ($\beta = 0.12$, $t(49.1) = 14.4$, $p < .001$, 95% CI [0.11, 0.14]), which supports Hypothesis 1a. Fear of COVID-19 was also significantly associated with the support for COVID-19 containment behaviors at all levels of trust in the government. Conversely to empathic concern, however, the effect of fear of COVID-19 was strongest when trust in the government was low ($\beta = 0.33$, $t(37.7) = 13.2$, $p < .001$, 95% CI [0.28, 0.38]), and weakest when trust in the government was high ($\beta = 0.29$, $t(37.8) = 11.7$, $p < .001$, 95% CI [0.24, 0.34]), which supports Hypothesis 2a (Figure 2).

Mixed-Level Analyses with Country-Level Scores of Trust in the Government

We repeated the same regression analysis as described above, using country-level scores for trust in the government extracted from the most recent wave of the World Values Survey (Haerpfer et al., 2022). The sum of the percentage of respondents who reported to have "a great deal" and "quite a lot" of confidence in their governments was used as an indicator of country-level trust in the government. The mixed-level linear regression analysis comprised the data of 11,026 responses from 29 countries.[2] The results of the analyses using the maximum likelihood estimator are summarized in Table 5.

The null model without any predictor variables was the same as in the previous analysis and showed that 34% of the variance in the support for COVID-19 containment behaviors existed between the different countries (ICC(1) = 0.34). In the second step, we ran a random coefficient model and entered the main effects of the predictor variables into our model: group-mean centered scores of empathic prosocial concern and fear of COVID-19 were used, while the country-level trust in the government score was grand-mean centered. The results show that the effects of empathic prosocial concern and fear of COVID-19 were significantly associated with supporting COVID-19 containment behaviors (both ps < .001), whereas no association was found with country-level trust in the government. In step three, we assumed a random slopes model, whereby the effects of governmental trust, empathic prosocial concern and fear of COVID-19 could freely vary across countries. Again, the main effects of empathic prosocial concern and fear of COVID-19 were significant ($p < .001$), whereas the effect of country-level trust in the government remained non-significant.

In the final step, we tested the proposed moderator effect of trust in the government as a context variable in accordance with our hypotheses and added the two-way interactions to the regression model. Again, the deviance scores of the random coefficients model at step 3 (= 21,334) was compared with that of the

model including the interactions at step 4 (= 21,275) (Campbell & Kashy, 2002). Results of the Chi-square test showed that the latter model explained significantly more variance [c^2 (3, N = 11,026) = 59, p < .001]. Findings from the regression analysis showed that country-level scores of trust in government did not interact with empathic prosocial concern to predict the support for COVID-19 containment behaviors, which disconfirms Hypothesis 1b. For the effect of fear of COVID-19, a significant interaction with country-level trust in the government was found (p < .05). Examination of the simple effects showed that the effect of fear of COVID-19 was significantly associated with supporting COVID-19 containment behaviors across low (- 1*SD*), medium (mean) and high (+ 1*SD*) levels of trust in the government. However, the effect of fear of COVID-19 was strongest in contexts where trust in the government is generally low (β = 0.37, t(28.5) = 9.93, p < .001, 95% CI [0.30, 0.45]), and weakest in contexts where trust in the government is generally high (β = 0.26, t(28.7) = 7.00, p < .001, 95% CI [0.18, 0.34]), which supports Hypothesis 2b (Figure 3)[3].

[1] We also tested the same hypotheses by statistically controlling for the effects of respondents' age and their gender, and country level scores of HDI, GPD per capita, number of hospital beds per 1000, month of data collection, government stringency level, and the number of new daily COVID-19 cases and deaths by the time of data collection. As results were not different from findings without covariates (see additional analyses under https://osf.io/kws9x/?view_only=a3685952968d4d31ada06f1181ace0a2), we presented the results without their covariate effects for reasons of simplicity.
[2] The data from five countries that did not participate in the World Values Survey had to be excluded from the analyses. These countries were Honduras, India, Israel, El Salvador and Cuba.
[3]Our findings did not vary as a function of HDI, GPD per capita, number of hospital beds per 1000, month of data collection, government stringency level, and the number of new daily COVID-19 cases and deaths by the time of data collection (see https://osf.io/kws9x/?view_only=a3685952968d4d31ada06f1181ace0a2).

Discussion

The present multinational study provides an individual and country-level perspective on the role of governmental trust as a moderator for motivations to support COVID-19 containment behaviors. Ever since its start in 2020, the pandemic has been a major reason for worry and concern among people around the globe, so governments and local officials strove to efficiently implement varying strategies to combat the spread of the virus. So far, only few studies have examined how the motives of people to comply with public health guidelines may differ in accordance with various boundary conditions (e.g., Ingoglia et al., 2022). The present study tried to cross-culturally shed light on the ways in which individuals (or societies) with low versus high levels of trust in the government respond to the COVID-19 pandemic, and how their motivations for supporting COVID-19 containment behaviors may differ accordingly.

First, we hypothesized that higher governmental trust will strengthen the positive association between empathic concern and the support of COVID-19 containment behaviors, both at the individual and the

country level. We found evidence at the individual level (but not the country-level) for the hypothesized association. Namely, while high trust in the government on the individual-level was in fact strengthening the association between prosocial motives and the support of COVID-19 containment behaviors, trust in the government at the country-level did not moderate this association. Country-level governmental trust was also not directly associated with the support of COVID-19 containment behaviors, supporting our claim that higher governmental trust may not inevitably promote stronger commitment to large-scale cooperative activities.

However, the question remains as to why country-level trust in the government did not exhibit a moderating effect (on the relationship between the empathic concerns and the support of COVID-19 containment behaviors of respondents) across countries. One possible explanation is that empathy is a deeply rooted individual characteristic which remains (more or less) resistant to different socio-political contexts, hence it appears to be less variable when considered in conjunction with country-level aspects. Highly empathetic people usually show a higher sense of community and civic engagement, so they are more likely to take on the responsibility for the community's well-being (Ingoglia et al., 2022) and could also be more prone to respond sensitively and favorably to issues of protecting citizens' health (regardless of whether they find themselves in a context where trust in the government is typically low or high). Still, it should be highlighted that individuals' own and personal levels of confidence in their government indeed altered the strength of the association between empathic concern and support for COVID-19 containment behaviors, highlighting that higher trust on individual level may catalyze the beneficial effects of empathy for promoting large-scale cooperative action.

Furthermore, we also postulated that low governmental trust would strengthen the association between fear from COVID-19 disease and support for COVID-19 containment behaviors, both at the individual and country level. In this case, our evidence provided support for the hypothesis at both levels of analysis. Our results show that fear of COVID-19 was related to preventive behaviors, especially when the trust in government was low. According to a number of authors (e.g., Germani et al., 2020; Horesh & Brown, 2020; Lee, 2020), in times of epidemic outbreak, people, especially those at risk of infection, are extremely vulnerable, emotionally fragile, and feel ambivalent emotions. They feel fear and panic, but also skepticism and disregard. Under these circumstances, individuals have difficulty processing information and may think of and behave for themselves as individuals rather than as connected to others. The same may also apply when people perceive their governments as not trustworthy, or when they are living in a surrounding that is characterized by low levels of trust in the government. Under such conditions, individuals may feel a stronger need to curb their fear through personal protective behaviors; and thus their self-protection motives (i.e., fear of disease) may play a stronger role for their support of COVID-19 containment behaviors. This is also in line with previous research showing that cooperation also relies on selfish (instead of altruistic) reasons, especially when deliberate cognitive processes are involved in the decision of whether to cooperate or not (Bear, & Rand, 2016; see also Rand et al., 2014). Results from the present study replicate previous work in this field (Capraro & Barcelo, 2020; Christner et al., 2022; Harper et al., 2021; Jordan et al., 2021; Kachanoff et al., 2021; Lee et al., 2020; Legate et al., 2022; Lunn et al., 2020; Rahman et al., 2021; Stuart et al., 2021; Wang et al., 2021) and show that both

self- and other-oriented motives play a role for intentions to engage in COVID-19 containment behaviors. Additionally, our research demonstrated that fear-driven cooperation seems most relevant for individuals with low levels of governmental trust, or for those living in low-trust contexts.

Implications

Our findings have relevant practical implications. The present findings underscore that adherence to guidelines aimed at preventing the COVID-19 pandemic spread depends on the interplay between personal individual-level resources (like fear and empathy), and contextual resources (like governmental trust). Mirroring results from extant research (e.g., Campos-Mercade et al., 2020; Jordan et al., 2021), the present findings highlight the strong and robust role of other-oriented concerns for mobilizing large-scale cooperation, that was found to be unaffected by country-level trust. However, the present research further underlies that self-centered motives may also play a role for large-scale cooperative endeavors. Results show that fear of disease was associated with individuals' support for COVID-19 containment measures, and that this was especially pronounced under volatile conditions; that is when individuals' hardly trusted their governments or when the general level of governmental trust within a community was low. Yet, while fear of infection may be associated with stronger compliance to COVID-19 health measures (see also, Harper et al., 2021; Do The Khoa et al., 2021), there is also growing evidence about the negative mental health consequences of enhanced fear of infection (e.g., Fitzpatrick et al., 2020; Yao et al., 2022), suggesting that promoting large-scale cooperation via fear would represent a costly and harmful strategy that is to be avoided. Promoting empathy, on the contrary, may work as a promising and no-risk strategy to enhance the efficacy of policy recommendations in collective crisis situations across various conditions. However, to benefit from empathy to the utmost, governments should take action in increasing individuals' perceptions of trust in the government.

Limitations and Future Research

The present research allowed us to examine the links between trust and acceptance of imposed restrictions during times of COVID-19, albeit in correlational rather than causal manner. Though correlational research is central for scientific progress (see Witte & Zenker, 2017), it is but an intermediate step in the process. Correlational research such as the one presented in this study should ideally be supported by ensuing causal confirmations, or at least with corroborated results from independent samples (also see many labs project; Klein et al., 2018). This of course is not a feasible solution in the present situation, as, hopefully, the COVID-19 pandemic is nearing its end. It is however an observation that should make us interpret the present findings with due caution.

The present data are sufficiently inclusive in terms of cultures of the world, and contains answers from a sufficiently large sample for conducting complex analyses such as hierarchical regression. Nonetheless, there is concern, as is the case usually in survey research (e.g., Wolf et al., 2021), that the sampled population might not be representative for the phenomenon and therefore for how our results can be generalized to the experiences of the general population in times of a pandemic. This is especially concerning considering that certain populations that were at risk such as older people and people with a

migration background could not be adequately represented. The results therefore might be biased toward the younger, local populations with internet access at the time of data collection.

Moreover, we are aware that the self-reported importance of performing COVID-19 containment behaviors which served as the dependent variable of the present research may not allow conclusions on how individuals would actually behave (e.g., Ajzen et al., 2004). For the present research, the choice of a self-report measure was driven by the multi-national nature of the study, and the limited resources available for data collection during the pandemic. Moreover, it should be noted that we deliberately chose to assess *the importance given to* the practice of COVID-19 containment measures instead of assessing self-reported behavior intentions or past behavior frequencies. That is, because behavior intentions may also be determined by other obligations or situational constraints. For instance, people working in hospitals would not report avoiding hospitals, even though they may consider it important to do so (for others).

Lastly, we note that the moderation effects, though significant, are small in magnitude. However, this is not in itself a concern due to the explorative nature of the study. It could become a concern if these results were taken at a face value without subsequent testing. Hence, even though the findings of the present research seem overall in line with the literature on rhe role played by trust in government, they may not necessarily apply to other global crises, or if independent data were to be collected. We do appreciate the benefits of conducting qualitative research at this stage in the pandemic (e.g., Pocock et al., 2021; Vindrola-Padros et al., 2020), and recommend using both experimental and qualitative research methods to further probe the links between trust and various motivations for supporting COVID-19 containment behaviors.

Methods

Procedure

The present study was spearheaded by the Research Initiatives Working Group (RIWG) of the American Psychological Association (APA) Interdivisional Task Force on the Pandemic, committed to the advancement of knowledge base through a repository and dissemination of materials and resources (De Angelis, 2020). The data collection was conducted within the framework of a large-scale collaborative project investigating “International and Multidimensional Perspectives on the Impact of COVID-19 across Generations (IMPACT-C19)”, spanning across different nations around the globe. The project focused specifically on the impact, perceptions, and experiences of COVID-19 among young people and established adults in an international perspective (Rivera, 2021). Participating researchers were invited to: a) obtain ethics approval from their home institution and b) collect data using the convenience sampling method. Informed consent prior to voluntary participation was obtained from each participant.

Participants

In accordance with our sampling strategy, the minimal number of participants was approximately 150 adult respondents per country. Namely, we conducted an a-priori power analysis using G*Power 3.1.9

(Faul et al., 2007), assuming a medium effect size of f^2 = .10, targeting a power of .95 and an alpha level of .05 (for two tested and six total predictors), and yielding a result of 158 per collection site (country). The datasets from each country that provided the minimum number of responses were then combined and cleaned. Answers of respondents younger than 18 years, or responses with missing values on any of the study's variables were deleted listwise from the dataset. The final dataset consisted of *N*= 12,758 individual responses (M_{age} = 26.9; 67% female) from adult participants, collected over a period of approximately one year (from February 2021 to December 2021) across 34 different nations (Table 2).

Measures

The entire survey administered to the participants consisted of socio-demographic background questions, and both already established and newly developed scales to assess concepts associated with COVID-19 and its impacts. Examples of the concepts are COVID-19 threat perception, fear of COVID-19, support for COVID-19 containment behaviors, national identity, hope, mindfulness, empathic concern, and religiousness. The survey was first developed in English and then translated and adapted to the local contexts (where necessary) by using the committee approach (Beaton et al., 2000; Brislin, 1980). The survey was anonymous, and completed on a voluntary basis (within 25 minutes approximately). The measures analyzed for the purpose of this study are: trust in the government, fear of COVID-19, empathic prosocial concern, and support for COVID-19 containment behaviors. The entire survey containing all scales is available at https://osf.io/kws9x/?view_only=a3685952968d4d31ada06f1181ace0a2.

Trust in the Government (Individual Level). Trust in the government was assessed with four items adapted from Kerr et al. (1999) asking respondents to report their trust in their government, for instance, "My government is there for me when I need it". Respondents were asked to rate these items on a five-point Likert scale ranging from *1 = strongly disagree* to *5 = strongly agree.* The internal consistency was calculated as Cronbach's Alpha = .95 for the total sample, and ranged between .85 and .97 across the different countries.

Trust in the Government (Country-Level). The country-level scores for trust in the government were extracted from the most recent wave of the World Values Survey (Haerpfer et al., 2022). The World Values Survey asks nationally representative respondents to indicate their level of confidence in their government with answer options ranging from *none at all, not very much*, to *quite a lot*, and *a great deal* (additionally there were the answer options "don't know" and "no answer"). The data used for the present analyses were all collected in 2017 and 2020. We used the sum of the percentage of respondents who reported to have "a great deal" and "quite a lot" of confidence in their governments as an indicator of the general level of governmental trust in the different study contexts (Table 2).

Prosocial Empathic Concern. To assess people's empathic concerns for others in times of the COVID-19 pandemic, the three items from the research by Pfatteicher and colleagues (2020) were used. Using a Likert scale ranging from *1 = strongly disagree* to *7 = strongly agree,* respondents were asked to indicate how much they agree, for instance, with the statement "I am very concerned about those most vulnerable

to COVID-19". Cronbach's Alpha for the overall sample was .91, and ranged between .63 and .97 across the countries.

Fear of COVID-19. We assessed respondents' fear with the seven-item fear of COVID-19 scale (Ahorsu et al., 2020). On a five-point Likert scale ranging from *1 = strongly disagree* to *5 = strongly agree* respondents were asked to indicate how much they agree with, for instance, "I am most afraid of COVID-19". Cronbach's Alpha was .90 for the total sample, and ranging between .83 and .93 across the different countries.

Support for COVID-19 containment behaviors. *To* assess participants' engagement in COVID-19 containment behaviors, an extended version of the measure developed by Tepe and Karakulak (2021) was used. With 13 items, respondents were asked to report how important it is to engage in particular COVID-19 preventive behavior (such as "wearing a mask", "not going outside, trying to stay at home", or "frequently washing hands") in the examined period. Response options were ranging from *1 = not at all important* to *5 = very important.* Internal consistencies were calculated as Cronbach's alpha = .94 for the total sample, and ranging between .81 and .95 across the different countries.

Data analysis strategy. The hypotheses of the present research were tested with two separate multi-level regression analyses using the maximum likelihood estimator. First a stepwise linear regression nested within the study countries was carried out to test the proposed associations on individual-level; and second a mixed-level stepwise linear regression was carried out to test the proposed moderation effect with country-level scores of trust in the government. The regression analyses were carried out across four steps. First, a null model without any predictors, and only the criterion variable, was carried out (Hofmann et al., 2000). Second, a random coefficient model that contained the main effects of the predictor variables was calculated. Third, a random slopes model testing the predictors' main effects was carried out; and finally the hypothesized two-way interactions were added to the random slopes regression model. All predictor variables entered into the model were group-mean centered, except for the country-level score of trust in the government which was grand-mean centered (Enders & Tofighi, 2007).

The main analyses were conducted without any covariate variables. However, results of the same analyses with age and gender, and country-level scores of HDI, GPD per capita, number of hospital beds per 1000, month of data collection, government stringency level, and the number of new daily COVID-19 cases and deaths by the time of data collection as covariates are presented in the additional analyses under https://osf.io/kws9x/?view_only=a3685952968d4d31ada06f1181ace0a2.

Declarations

***Data availability*.** The data generated and/or analyzed during the current study are available on the Open Science Framework repository, https://osf.io/kws9x/?view_only=a3685952968d4d31ada06f1181ace0a2. The World Values Survey data are available at https:// www.worldvaluessurvey.org/wvs.jsp. Data on country-level HDI can be retrieved from https://hdr.undp.org/data-center/documentation-and-downloads, GDP per capita from https://data.worldbank.org/indicator/NY.GDP.PCAP.CD; hospital beds per thousand

from https://ourworldindata.org/grapher/hospital-beds-per-1000-people, government stringency level from https://covidtracker.bsg.ox.ac.uk/stringency-map; scores for daily new COVID-19 cases and deaths from https://ourworldindata.org/explorers/coronavirus-data-explorer?uniformYAxis=0&pickerSort=asc&pickerMetric=location&Metric=Cases+and+deaths&Interval=7-day+rolling+average&Relative+to+Population=true&Color+by+test+positivity=false.

The current study protocol has been reviewed and approved by the Institutional Review Board of Bahcesehir University (IRB protocol number: E-8755). When not declared as exempt, approvals have additionally been obtained from the local institutional review boards of all other involved countries. Informed consent was obtained from each participant prior to completing the research.

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Tables

Tables 1 to 5 are available in the Supplementary Files section

Figures

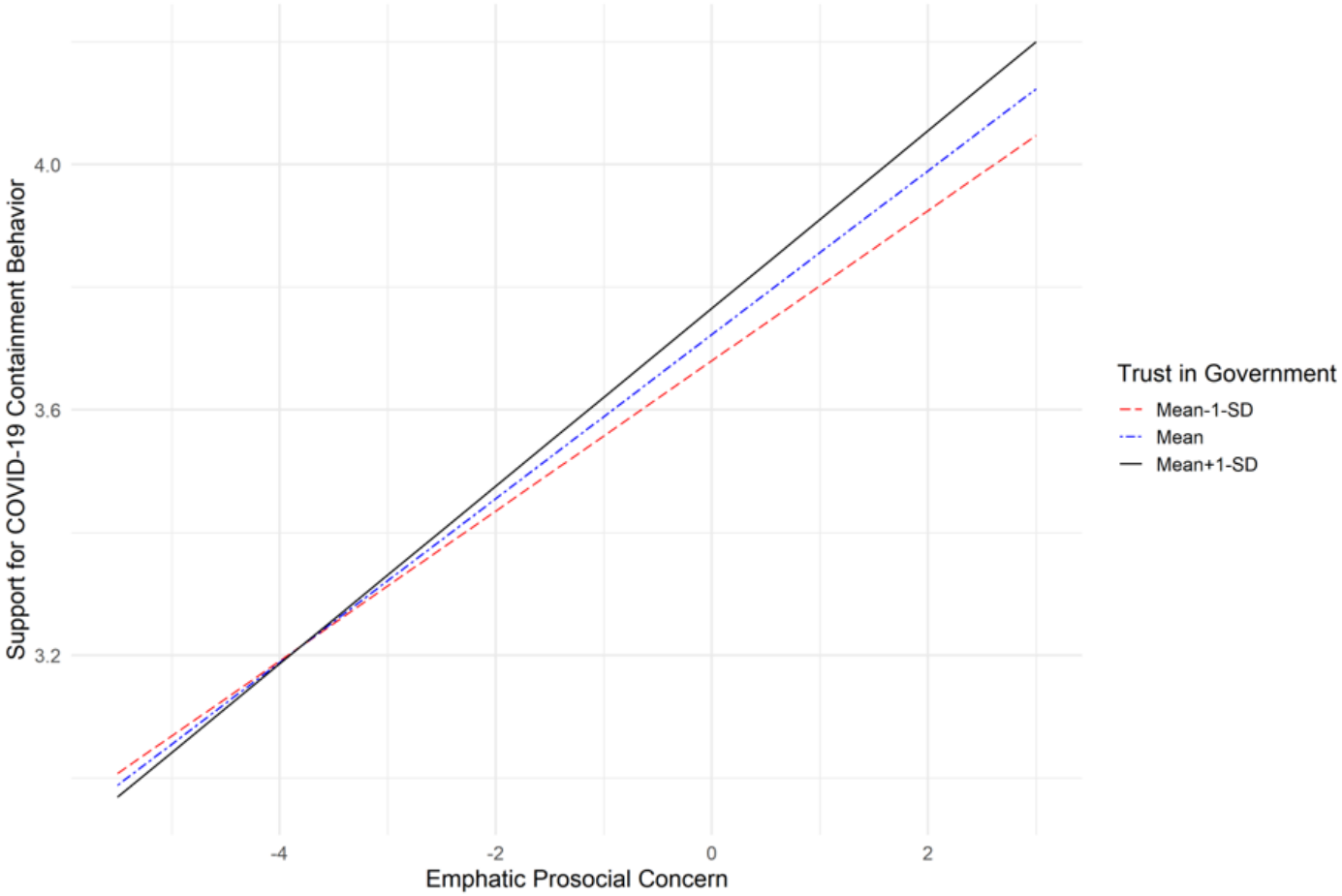

Figure 1

Moderator Effect of Trust in the Government on the Effect of Empathic Prosocial Concern.

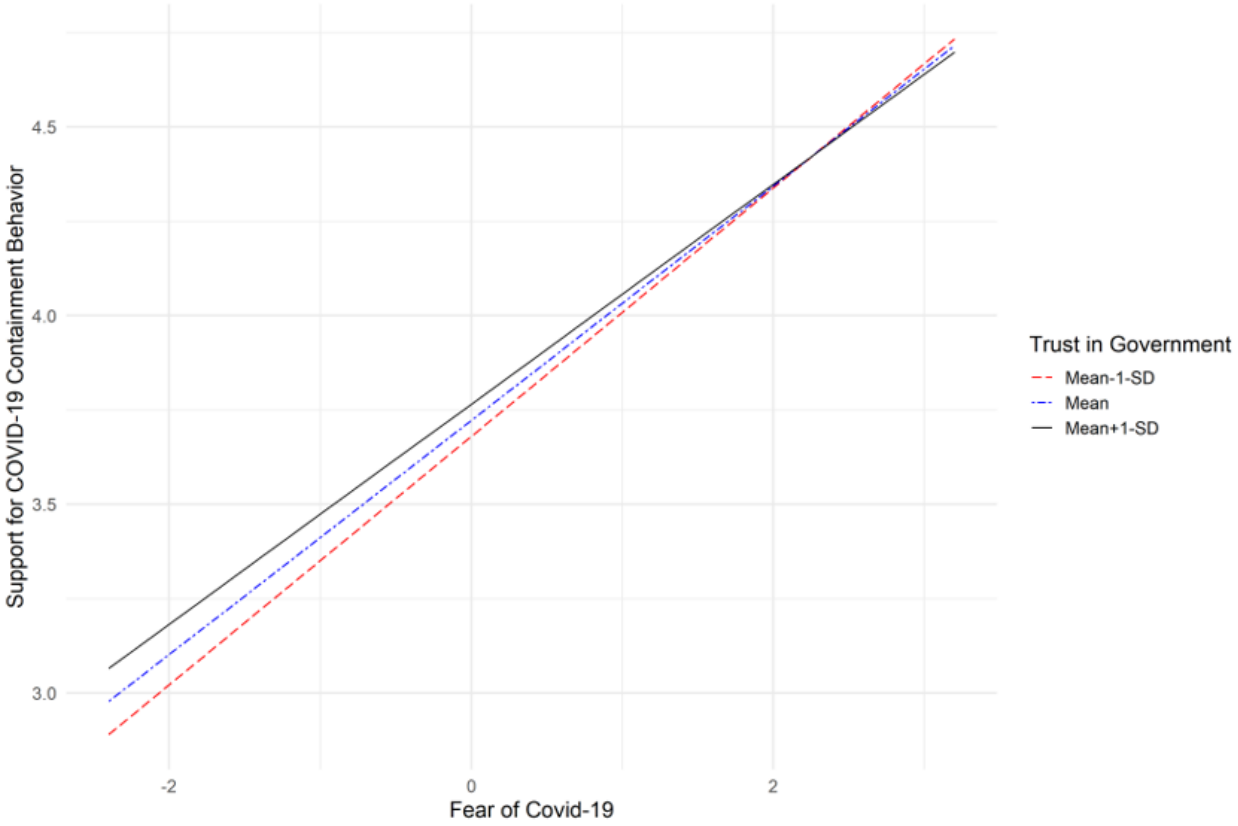

Figure 2

Moderator Effect of Trust in the Government on the Effect of Fear of COVID-19.

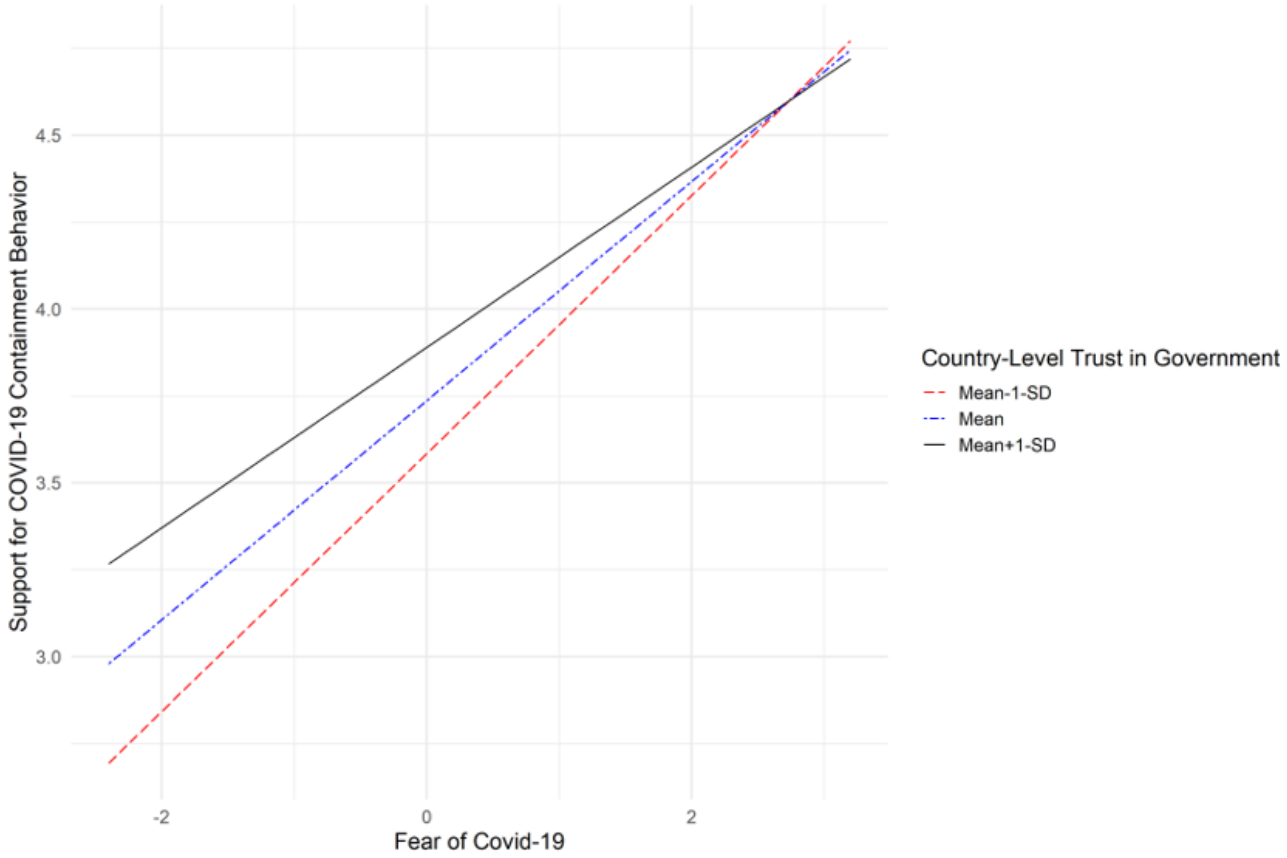

Figure 3

Moderator Effect of Country-level Trust in the Government (WVS) on the Effect of Fear of COVID-19

Supplementary Files

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- Tables.docx