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Socio-political efficacy explains increase in New Zealanders’ pro-environmental attitudes due to COVID-19

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ABSTRACT

The ongoing COVID-19 pandemic claimed millions of lives and caused unprecedented disruptions. Despite these negative impacts, there is optimism the pandemic may shift public opinion on other global crises by fostering a sense of collective efficacy. Using propensity score matching to compare New Zealanders assessed before (n = 12,304) and after (n = 12,370) nationwide lockdowns in 2020, we tested a preregistered mediation model with COVID-19 lockdown experience predicting increases in pro-environmental attitudes via enhanced socio-political efficacy. As hypothesized, socio-political efficacy increased after the successful nationwide lockdowns. In turn, socio-political efficacy amplified respondents’ pro-environmental attitudes including climate beliefs and concern, as well as support for a government subsidy for public transport and opposition to government spending on new motorways. The pandemic also enhanced respondents’ satisfaction with the quality of the natural environment, which was unmediated by socio-political efficacy. The crisis might offer an opportunity to foster collective pro-environmental actions.

The COVID-19 pandemic has claimed millions of lives and caused unprecedented disruptions. To combat the spread of COVID-19, New Zealanders were confined to their homes as part of a nationwide lockdown imposed from March 25 to April 27, 2020, which was followed by distinct stages of restrictions throughout the remainder of the year. Prior research showed that this “Alert Level 4” lockdown and the associated restrictions impacted people’s socio-political and psychological outcomes, as evidenced by increases in trust in science and politicians, as well as increases in psychological distress (Sibley et al., 2020). While this and other studies observed mental health impacts during the early stages of the pandemic, a recent review indicates that people were remarkably resilient to the difficulties imposed by the pandemic, providing an optimistic challenge to the narrative of an expected worldwide mental-health crisis (Aknin et al., in press; Aknin, Zaki, & Dunn, 2021; see also Sibley, Overall, Osborne, & Satherley, 2021).

Alongside the resilience shown by people in the face of the COVID-19 pandemic, commentators have argued that the crisis offers a unique opportunity for governments and individuals to consider more sustainable approaches to production and consumption (e.g., McGlennon, 2020; Richter et al., 2021). In his opinion piece soon after the “Alert Level 4” lockdown, James Shaw, New Zealand’s then-Minister for the Environment, wrote, “This time, we could do it differently. This time, we could plan our recovery to create a clean-tech, high-value economy that works for everyone” (Shaw, 2020). Other world leaders made similar points about the pandemic, noting a critical opportunity for pro-environmental actions, including Germany’s prime minister at the time, Angela Merkel, who urged for a climate-friendly recovery from the ongoing pandemic (Nienaber & Wacket, 2020).

Coinciding with these optimistic remarks from politicians, there have been reports of urban wildlife sightings and discussions about increased satisfaction with the quality of the natural environment. These developments have emerged because reduced human activity during the pandemic (i.e., “anthropause”) has both improved environmental conditions and increased public appreciation of nature (e.g., Anderson, 2020; McCunn, 2020; Pouso et al., 2021; Smith, 2020). In this sense, the pandemic may offer a once-in-a-generation chance to remake society and build a better future (see Osborne, Becker, Bahamondes, & García-Sánchez, in press).

Following this sentiment, Bouman, Steg, and Dietz (2021) articulated how COVID-19 responses could inform strategies to mitigate
global environmental crises. These scholars argue that responses to the COVID-19 outbreak may have shifted public opinion on the role of government and individual responsibility in dealing with risks posed by the pandemic. In particular, they argue that personal norms—internalized standards about the “right” thing to do—were instrumental to facilitating effective public responses to COVID-19, reflecting people’s intrinsic motivation to take prosocial action to avoid the spread of the virus (e.g., wearing masks, maintaining social distance, improving hygiene behaviors). Using the pandemic as a case study, Bouman and colleagues argue that strong internalized feelings of being personally responsible and morally compelled to mitigate COVID-19 can also be used to foster actions that promote environmental sustainability. In particular, the authors discuss five well-established antecedents of personal norms to act: personal values, awareness of consequences, ascription of responsibility, efficacy beliefs, and social factors. Their theoretical framework and discussion posit that the COVID-19 crisis intensified these five factors. In turn, these five factors can foster mitigation actions through increases in personal norms.

More importantly to the context of our study, Bouman and colleagues’ (2021) theoretical framework posits that efficacy beliefs have the strongest direct influence on personal norms among the five well-established antecedents discussed. Indeed, the authors note that “personal norms for action require that individuals believe they can engage in actions to mitigate the crisis (that is, self-efficacy), and that such actions will improve the situation (that is, outcome efficacy, sometimes also referred to as response efficacy)” (Bouman et al., 2021, p. 195). Although focusing on personal norms, these authors highlight the key role of efficacy beliefs, which are central to human agency (Bandura, 2006). Consistent with this perspective, the collective action literature reveals that group efficacy—a conceptually-related belief in the ability of one’s group to enact change—is also a fundamental antecedent to working together to overcome group-based challenges (Thomas, Zubielevitch, Sibley, & Osborne, 2020; van Zomeren, Postmes, & Spears, 2008).

1. The present study

In this brief research report, we test a model inspired by Bouman and colleagues’ (2021) theoretical arguments, as well as by previous literature highlighting the importance of efficacy beliefs for personal/collective action in general (Bandura, 2006; van Zomeren et al., 2008) and pro-environmental attitudes and behaviours in particular (Bamberg & Moser, 2007; Jugert et al., 2016; Milfont, 2012). Considering the key role of efficacy beliefs, we examined whether the pandemic enhanced participants’ perceived socio-political efficacy and, in turn, amplified their pro-environmental attitudes. Beyond Bouman et al.’ (2021) argument that the COVID-19 outbreak may have shifted public notions of socio-political responsibilities in dealing with pandemic risks, there are contextual factors that support this prediction in New Zealand. The New Zealand Government, led by the Prime Minister Jacinda Ardern, was praised for its ‘Go Hard, Go Early’ approach in responding to the COVID-19 pandemic (Cousins, 2020; Jenkins et al., 2021). The adopted elimination strategy included nationwide lockdowns and border closures, resulting in one of the lowest numbers of confirmed cases and deaths globally, and placing the country in the top of the stringency index from the Oxford Coronavirus Government Response Tracker.

Earlier findings reported by Sibley et al. (2020) suggested the lockdowns in New Zealand produced a “rally around the flag” effect, or a short-term boost to the government’s popularity during intense crises (Mueller, 1970). This increased support for the government was corroborated by the 2020 election results. Ushered in by New Zealand’s highest voter turnout (82.2%) since 1999 (84.8%), Prime Minister Jacinda Ardern won a second term with 50% of the votes and was able to govern without the need to form an alliance with another political party. This marked the first time a political party could govern alone in New Zealand since the mixed member proportional electoral system was introduced in 1993 (Van Veen et al., 2021).

These contextual factors informed our prediction that the lockdown—which successfully achieved the nation’s goal of eliminating the virus from the community—would increase New Zealanders’ perceived socio-political efficacy. These are superordinate efficacy beliefs (see Paulhus, 1983, Fig. 1) which refer to the “perceived efficacy of the individual in controlling social and political institutions” (Paulhus, Molin, & Schuchs, 1979, p. 201). If the pandemic encouraged individuals to consider more sustainable approaches to production and consumption, as well as develop a renewed appreciation of nature (e.g., McCunn, 2020; McGlennon, 2020), any changes in New Zealanders’ pro-environmental attitudes resulting from the pandemic should occur (at least partly) through enhanced levels of socio-political efficacy. Fig. 1
Table 1

| Variables from the New Zealand Attitudes and Values Study (NZAVS) considered in the analysis. |
|--------------------------------------------------|
| Outcome                                         |
| Satisfaction with NZ environment                 |
| The quality of New Zealand’s natural environment.|
| Climate Change                                  |
| Change is real.                                  |
| Change is caused by humans.                      |
| I am deeply concerned about climate change.      |
| Motorway Spending                                |
| Increased government spending on new motorways. |
| Public Transport Subsidy                         |
| Developed for the NZAVS (see Milfont, Osborne,  |
| Yogeerswaran, & Sibley, 2020)                    |
| Government subsidy of public transport.          |
| Quality of Waterways                             |
| Developed for the NZAVS                          |
| The quality and the health of the waterways in   |
| your local region.                               |
| Mediator                                         |
| Socio-Political Efficacy                         |
| Paulhus and Van Selst (1990)                     |
| By taking an active part in political and social |
| affairs we, the people, can control world events.|
| The average citizen can have an influence on     |
| government decisions.                            |
| With enough effort we can wiped out corruption.  |

Note. Participants (N = 24,674) rated the “Satisfaction with NZ environment” and the “Quality of waterways” items on an 11-point scale anchored at 0 (completely dissatisfied) and 10 (completely satisfied). The “Motorway Spending” and “Public Transport Subsidy” items were rated on a 7-point scale anchored at 1 (strongly oppose) and 7 (strongly support). All other items were rated on a 7-point, Likert-type scale anchored at 1 (strongly disagree) and 7 (strongly agree). Raw scores are presented here but were transformed to range from 0 to 1 in the main analyses.

We compare respondents’ pro-environmental attitudes after the lockdown to a propensity matched control group surveyed before the pandemic emerged. Propensity score matching allows valid comparisons between a treatment group and a matched control group when random assignment is not possible. Here, our treatment group refers to people with first-hand experiences of the COVID-19 outbreak and lockdown restrictions imposed by the government in 2020 (n = 12,370), and the control group are people surveyed during October–December 2019 prior to the pandemic and lockdown restrictions (n = 12,304). Investigating whether socio-political efficacy and pro-environmental attitudes differ between participants who responded after the COVID-19 outbreak and lockdowns and a matched control group assessed before the pandemic allows us to draw stronger conclusions about the relative effect of the pandemic. This is because propensity score matching approximates a randomized controlled experiment (Rosenbaum & Rubin, 1983; Thoemmes & Kim, 2011), and increases the ability to make causal inferences (Austin, 2011; Stuart, 2010), since any observed differences between the pandemic group and the propensity matched control group are more likely to be due to the COVID-19 pandemic and the associated restrictions than to other confounding factors.

Propensity score matching was used to match the pandemic and control groups on these 15 demographic factors: (a) ethnicity, (b) gender, (c) age, (d) place of birth, (e) New Zealand citizenship, (f) diagnosis with depression or anxiety disorder in the past five years, (g) smoking status, (h) disability status, (i) education, (j) socioeconomic status, (k) area-level deprivation, (l) rural (vs urban), (m) relationship status, (n) parental status, and (o) religiosity (see Sibley et al., 2020, 2021).

To test our pre-registered predictions, we conducted a path analysis in Mplus (version 8.6; Muthén & Muthén, 1998-2017). Specifically, all seven environmental outcomes included in the 2019–2020 wave of the NZAVS were simultaneously regressed onto our three-item socio-political efficacy measure (α = 0.61) and a dummy-coded variable capturing the propensity matched control group (0) and the pandemic group (1). Socio-political efficacy was also regressed onto the dummy coded variable, and the indirect effect of the dummy variable on the pro-environmental outcomes via socio-political efficacy was estimated using 5000 bootstrapped resamples (with replacement). Bootstrapping is recommended for computing the confidence interval of indirect effects when testing mediation models (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Because some of these measures were assessed on a different metric (i.e., the two items assessing satisfaction with the New Zealand environment and local waterways were assessed on an 11-point scale, whereas the other measures used a 7-point scale), all variables were recoded to range from 0 to 1 prior to these main analyses.

Table 2

| Variables | Reference |
|-----------|-----------|
| 1. COVID-19 |.90 .50 24,674 |
| 2. Socio-political Efficacy | 4.49 1.25 24,667 .08*** |
| 3. Climate change reality | 6.11 1.46 24,168 .02*** |
| 4. Anthropogenic climate change | 5.64 1.66 24,136 .04*** |
| 5. Climate change concern | 5.32 1.74 24,044 .01 .31*** |
| 6. Motorway Spending | 4.68 1.69 24,522 .07*** |
| 7. Public Transport Subsidy | 5.57 1.34 24,504 .04*** |
| 8. Quality of Waterways | 4.58 2.68 24,577 .01 |
| 9. Satisfaction with Environment | 5.22 2.50 24,575 .04*** |

Note. Participants rated the “Satisfaction with environment” and the “Quality of waterways” items on an 11-point scale anchored at 0 (completely dissatisfied) and 10 (completely satisfied). The “Motorway Spending” and “Public Transport Subsidy” items were rated on a 7-point scale anchored at 1 (strongly oppose) and 7 (strongly support). All other items were rated on a 7-point, Likert-type scale anchored at 1 (strongly disagree) and 7 (strongly agree). Raw scores are presented here but were transformed to range from 0 to 1 in the main analyses.

*p < .05; **p < .01; ***p < .001.
Table 3
Effect of COVID-19 pandemic on pro-environmental attitudes via socio-political efficacy.

|                                | Socio-Political Efficacy | Climate Change Reality | Anthropic Climate Change | Concern about Climate Change |
|--------------------------------|--------------------------|------------------------|--------------------------|------------------------------|
|                                | b (95% CI) | t       | b (95% CI) | t       | b (95% CI) | t       | b (95% CI) | t       |
| Direct Effect                  |            |         |            |         |            |         |            |         |
| COVID-19                       | 0.033***    | 12.286  | -0.063     | -8.583  | -0.011**   | -3.172  | 0.010**    | 2.882   |
| Socio-Political Efficacy       | (0.028, 0.038) |         | (-0.099, 0.003) |         | (-0.019, -0.004) |         | (0.003, 0.017) |         |
| Indirect                       |            |         |            |         |            |         |            |         |
| Via Socio-Political Efficacy   | 0.010***    | 11.652  | 0.014***   | 11.840  | 0.012***   | 11.743  |            |         |
| Socio-Political Efficacy       | (0.008, 0.012) |         | (0.012, 0.017) |         | (0.010, 0.014) |         |            |         |
| Total Effect                   |            |         |            |         |            |         |            |         |
| Support for New Motorways Spending | 0.007***  | 2.344   | 0.003      | 0.841   | 0.022***   | 6.081   |            |         |
| Socio-Political Efficacy       | (0.001, 0.014) |         | (-0.004, 0.010) |         | (0.015, 0.029) |         |            |         |
| Indirect                       |            |         |            |         |            |         |            |         |
| Via Socio-Political Efficacy   | 0.005***    | 10.220  | 0.007***   | 11.228  | 0.000      | -1.240  |            |         |
| Socio-Political Efficacy       | (-0.006, -0.004) |         | (0.006, 0.008) |         | (-0.001, 0.000) |         |            |         |
| Total Effect                   |            |         |            |         |            |         |            |         |
| Support for Public Transport Subsidy | 0.163*** | 17.798  | 0.213***   | 28.250  | 0.034***   | 3.791   | 0.021***   | 6.466   |
| Socio-Political Efficacy       | (-0.181, -0.145) |         | (0.198, 0.227) |         | (-0.051, -0.016) |         | (0.014, 0.027) |         |
| Indirect                       |            |         |            |         |            |         |            |         |
| Via Socio-Political Efficacy   | -0.005***   | 10.220  | 0.007***   | 11.228  | -0.001***  | 3.597   | 0.000      | -1.240  |
| Socio-Political Efficacy       | (-0.006, -0.004) |         | (0.006, 0.008) |         | (-0.002, -0.001) |         | (-0.001, 0.000) |         |
| Total Effect                   |            |         |            |         |            |         |            |         |
| Satisfaction with Quality of Waterways | 0.042*** | 11.649  | -0.017***  | -5.907  | 0.000      | 0.032   | 0.020***   | 6.382   |
| Socio-Political Efficacy       | (-0.049, -0.035) |         | (-0.022, -0.011) |         | (-0.007, 0.006) |         | (0.014, 0.026) |         |

Note. N = 24,674. All variables were recoded to range from 0 to 1 in order to place the measures on a common metric. *p < .05; **p < .01; ***p < .001.
3. Results and discussion

Table 2 displays the descriptive statistics and bivariate correlations for the variables included in this study. As predicted, Table 3 shows that New Zealanders’ socio-political efficacy increased over the COVID-19 pandemic, which then increased support for environmental-related issues. In other words, New Zealanders’ belief that they can influence government decisions increased as a result of the COVID-19 response. That socio-political efficacy increased in the wake of the pandemic echoes New Zealand’s “team of 5 million” successful mitigation of this global crisis (Cousins, 2020; Jenkins et al., 2021) and the “rally around the flag” effect noted previously (Sibley et al., 2020).

Notably, the increased sense of socio-political efficacy resulting from the lockdowns led to increases in pro-environmental attitudes. This impact occurred for 6 (out of 7) of the outcomes analyzed (see Fig. 2). Climate beliefs and concern increased as a function of socio-political efficacy, and similar effects were observed for increased support for a government subsidy for public transport, increased satisfaction with the quality of the local waterways and decreased support for government spending on new motorways. Interestingly, socio-political efficacy did not mediate the direct effect of the pandemic experience on satisfaction with the environment. This main (and unmediated) effect indicating that the pandemic increased the perceived quality of New Zealand’s natural environment corroborates prior observations that the reduction in human activity over the course of the pandemic (i.e., “anthropause”) might have improved environmental conditions and renewed people’s appreciation of the natural environment (e.g., Anderson, 2020; McCunn, 2020; Pouso et al., 2021; Smith, 2020).

Like all studies, the present research has limitations. First, findings are restricted to New Zealand and might not replicate in other contexts. In particular, geographical isolation, population size and the commitment by the New Zealand Government to follow scientific advice might help explain the country’s success in its elimination strategy which, in turn, might have contributed to New Zealanders’ perceived increase in socio-political efficacy. Second, propensity score matching approximates a randomized controlled experiment, which allows for causal inferences (e.g., the pandemic experience caused an increase in socio-political efficacy) and is the best strategy when random assignment is unattainable. Despite its strengths, this analytical approach does not fully control for unmeasured confounding variables that could explain and/or bias our findings. Our robust inclusion of 15 variables upon which the control and pandemic samples were matched does, however, increase confidence that the most likely alternative explanations have been ruled out by our analytic approach, and that observed differences between the samples can be confidently attributed to the pandemic. Finally, all pro-environmental attitude measures were assessed with single item scales which could have impacted the observed estimates. However, it is likely that estimates would be stronger with multi-item scales were available (see, e.g., Crocker & Algina, 1986).

Notwithstanding these and other limitations, our findings support Bouman and colleagues’ (2021) theorizing that responses to the COVID-19 outbreak may have shifted public opinion on the role of government and individual responsibility in dealing with these risks. Notably, it was this intensification of socio-political efficacy that explained an increase in the majority of individuals’ pro-environmental attitudes in the current study. These findings have important implications given that group efficacy is a key antecedent of collective action (Thomas et al., 2020; van Zomeren et al., 2008), and that collective pro-environmental action is fundamental in addressing global environmental challenges (Barth, Masson, Fritsche, Fielding, & Smith, 2021). These findings also illustrate how many aspects of life the COVID-19 pandemic has impacted, including small businesses (Bartik et al., 2020), education (Li & Lalani, 2020) and mental health (Aknin et al., in press; Lieberoth et al., 2021).

The public is now involved in ongoing discussions about the trade-offs between hazard reduction, personal freedom and economic security, which could have a profound impact on how people think and act regarding global environmental issues. In the New Zealand context, the pandemic has produced positive side effects that could inspire other countries. Although several months have passed, our results indicate that the COVID-19 outbreak may provide an opportunity to tackle pressing environmental issues, particularly given that pandemics will likely be more common if actions are delayed.

![Fig. 2. Results of the pre-registered mediation model with COVID-19 lockdown experience predicting increases in pro-environmental attitudes via enhanced socio-political efficacy.](image-url)
