Socio-Political Efficacy Explains Increase in New Zealanders' Pro-Environmental Attitudes

Due to COVID-19

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Abstract

The COVID-19 pandemic caused millions of deaths and unprecedented disruptions on societies. Despite these negative impacts, there is optimism the pandemic may shift public opinion on other cross-national crises by fostering a sense of collective efficacy. Using propensity score matching to compare samples of New Zealanders assessed before ($n = 12,304$) and after ($n = 12,370$) nationwide lockdowns in 2020 ($N = 24,674$), we show that the pandemic enhanced socio-political efficacy. 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.

Keywords: COVID-19; environmentalism; socio-political efficacy; collective action

The COVID-19 pandemic has caused unprecedented impacts on societies and economies, as well as major disruptions to people's lives through widespread lockdowns. 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 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, the then New Zealand Minister for the Environment James Shaw 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 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 the mitigation of 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 (for example, 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, Bauman 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)” (p. 195). Consistent with this assumption, the literature on collective action reveals that group efficacy—a conceptually-related belief in the ability of one’s group to effect change—is a fundamental antecedent to working together to overcome group-based challenges (Thomas, Zubielevitch, Sibley, & Osborne, 2020; van Zomeren, Postmes, & Spears, 2008). Hence, when focusing only on this strongest antecedent, their framework suggests the following mediation model: COVID-19 crisis → enhanced efficacy beliefs → enhanced personal norms → greater mitigative actions.

The Present Study

In this brief research report, we test a model inspired by Bouman and colleagues’ (2021) theoretical arguments. Considering the key role placed on efficacy beliefs, we examined whether the pandemic enhanced participants’ perceived efficacy in the socio-political sphere and, in turn, amplified pro-environmental attitudes. Beyond their 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 from the Labour Party, 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 (34 as of 16 November 2021), and placing the country in the top of the stringency index from the Oxford Coronavirus Government Response Tracker.

Earlier findings reported by Sibley and colleagues (2020) suggested the New Zealand lockdowns produced a “rally around the flag” effect, or 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, along with Bouman and colleagues’ theoretical argument, informed our prediction that the lockdown would increase New Zealanders’ perceived socio-political efficacy, which refers to the “perceived efficacy of the individual in controlling social and political institutions” (Paulhus, Molin, & Schuchts, 1979, p. 201). Although Bouman and colleagues focused on self-efficacy and response efficacy explicitly directed at mitigating a crisis, we focus on superordinate perceived efficacy to the broader socio-political sphere (see Paulhus, 1983, Figure 1). Moreover, if the pandemic has 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. Figure 1 illustrates our pre-registered predictions (<https://osf.io/3pdmu/>) that socio-political efficacy helps explain the hypothesized variations in climate change beliefs and pro-environmental attitudes as a result of the pandemic.

Method

We analyzed data from the New Zealand Attitudes and Values Study (NZAVS), a nation-wide longitudinal panel study that began in 2009 based on a random sample of the Electoral Roll. The project is reviewed every 3 years by the University of Auckland Human Participants Ethics Committee, and the most recent renewal was on 05 September 2017 (Reference Number: 014889). Respondents complete the annually based survey at different times of the year via a postal or web-based survey, which allowed examination of how pro-environmental attitudes varied as the COVID-19 pandemic progressed (see Sibley et al., 2020). To provide a complete test of our research questions, we included all seven environmentally relevant questions available in the focal waves of the NZAVS collected in 2019 and 2020 ($N = 24,674$). Table 1 presents an overview of the variables included in our analysis.

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, 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 ($\alpha = .61$) 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 5,000 bootstrapped resamples (with replacement). 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.

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 COVID-19 increased New Zealanders' socio-political efficacy, 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 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 analysed. 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 and decreased support for government spending on new motorways. However, the pandemic appeared to have no effect on satisfaction with the quality of the local waterways, which reflects a long-standing concern. 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 commitments 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.

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 when considering that group efficacy is a key antecedent of collective action (Thomas, Zubielevitch, Sibley, & Osborne, 2020; van Zomeren, Postmes, & Spears, 2008), and that collective pro-environmental action is fundamental in addressing global environmental challenges (Barth et al., 2021). The findings also illustrate how many aspects of life the COVID-19 pandemic has impacted (Aknin et al., in press; Lieberoth et al., 2021).

The public is now involved in ongoing discussions about 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. Although several months have passed, our results indicate the COVID-19 outbreak provides an opportunity to tackle

pressing environmental issues, particularly given that such pandemic outbreaks will likely be more common if actions are delayed.

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Table 1

Variables from the New Zealand Attitudes and Values Study (NZAVS) Considered in the

Analysis

Outcome variables	Reference
Satisfaction with NZ environment	(adapted from Tiliouine, Cummins, & Davern, 2006)
The quality of New Zealand's natural environment.	
Climate Change	Developed for the NZAVS (see McBride et al., 2021; Sibley, & Kurz, 2013)
Climate change is real.	
Climate change is caused by humans.	
I am deeply concerned about climate change.	
Motorway Spending	Developed for the NZAVS
Increased government spending on new motorways.	
Public Transport Subsidy	Developed for the NZAVS (see Milfont et al., 2020)
Government subsidy of public transport.	
Quality of Waterways	Developed for the NZAVS
The quality and health of the waterways in your local region.	
Mediator	
Socio-Political Efficacy	(Paulhus & 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 wipe out political corruption.	

Note. Participants 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). To place these eight measures on a common metric, all variables were recoded to range from 0 to 1 before conducting the main analyses.

374 Table 2

375 *Descriptive Statistics and Bivariate Correlations for the Variables Included in this Study*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. COVID-19	.50	.50	---							
2. Socio-political Efficacy	4.49	1.25	.08***	---						
3. Climate change reality	6.11	1.46	.02*	.26***	---					
4. Anthropogenic climate change	5.64	1.66	.04***	.27***	.69***	---				
5. Climate change concern	5.32	1.74	.01	.31***	.69***	.74***	---			
6. Motorway Spending	4.68	1.69	-.07***	-.12***	-.20***	-.24***	-.24***	---		
7. Public Transport Subsidy	5.57	1.34	-.04***	.19***	.28***	.29***	.31***	-.15***	---	
8. Quality of Waterways	4.58	2.68	-.01	-.03***	-.18***	-.19***	-.25***	.21***	-.15***	---
9. Satisfaction with Environment	5.22	2.50	.04***	-.01	-.16***	-.18***	-.24***	.22***	-.13***	.59***

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377 *Note.* Participants rated the “Satisfaction with environment” and the “Quality of waterways” items on an 11-point scale anchored at 0 (completely dissatisfied)
 378 and 10 (completely satisfied). The “Motorway Spending” and “Public Transport Subsidy” items were rated on a 7-point scale anchored at 1 (strongly oppose)
 379 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
 380 presented here but were transformed to range from 0 to 1 in the main analyses.

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

Table 3

Effect of COVID-19 Pandemic on Pro-Environmental Attitudes via Socio-Political Efficacy

	Socio-Political Efficacy		Climate Change Reality		Anthropogenic Climate Change		Concern about Climate Change	
	<i>b</i> (95% CI)	<i>t</i>	<i>b</i> (95% CI)	<i>t</i>	<i>b</i> (95% CI)	<i>t</i>	<i>b</i> (95% CI)	<i>t</i>
Direct Effect								
COVID-19	.033*** (0.028, 0.038)	12.286	−0.003 (−0.009, 0.003)	−0.858	−0.011** (−0.019, −0.004)	−3.172	0.010** (0.003, 0.017)	2.882
Socio-Political Efficacy			0.304*** (0.289, 0.320)	37.330	0.438*** (0.420, 0.456)	46.918	0.359*** (0.342, 0.378)	39.898
Indirect								
Via Socio-Political Efficacy			0.010*** (0.008, 0.012)	11.652	0.014*** (0.012, 0.017)	11.840	0.012*** (0.010, 0.014)	11.743
Total Effect			0.007* (0.001, 0.014)	2.344	0.003 (−0.004, 0.010)	0.841	0.022*** (0.015, 0.029)	6.081

Note. All variables were recoded to range from 0 to 1 in order to place the measures on a common metric. ⁺*p* < .10; **p* < .05; ***p* < .01; ****p* < .001

Table 3 (cont.).

	Support for New Motorways Spending		Support for Public Transport Subsidy		Satisfaction with Quality of Waterways		Satisfaction with Quality of Natural Environment	
	<i>b</i> (95% CI)	<i>t</i>	<i>b</i> (95% CI)	<i>t</i>	<i>b</i> (95% CI)	<i>t</i>	<i>b</i> (95% CI)	<i>t</i>
Direct Effect								
COVID-19	−0.037*** (−0.043, −0.029)	−10.220	−0.024*** (−0.029, −0.018)	−8.483	0.001 (−0.006, 0.008)	0.289	0.021*** (0.014, 0.027)	6.466
Socio-Political Efficacy	−0.163*** (−0.181, −0.145)	−17.798	0.213*** (0.198, 0.227)	28.250	−0.034*** (−0.051, −0.016)	−3.791	−0.010 (−0.026, 0.006)	−1.245
Indirect								
Via Socio- Political Efficacy	−0.005*** (−0.006, −0.004)	−10.220	0.007*** (0.006, 0.008)	11.228	−0.001*** (−0.002, −0.001)	−3.597	0.000 (−0.001, 0.000)	−1.240
Total Effect	−0.042*** (−0.049, −0.035)	−11.649	−0.017*** (−0.022, −0.011)	−5.907	0.000 (−0.007, 0.006)	−0.032	0.020*** (0.014, 0.026)	6.382

Note. All variables were recoded to range from 0 to 1 in order to place the measures on a common metric. ⁺ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Figure 1

Pre-Registered Mediation Model with COVID-19 Lockdown Experience Predicting Increases in Pro-Environmental Attitudes Via Enhanced Socio-Political Efficacy