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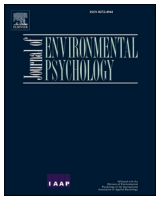

A fight against all odds? The causal effects of perceived political efficacy and protest repression on motivation to engage in normative and non-normative climate protest

Marcos Dono [a,*], Arin Ayanian [b], Nicole Tausch [c]

[a] University of Santiago de Compostela, Institute of Psychology (IPsiUS), Santiago de Compostela, Spain
[b] Yerevan State University, Faculty of Philosophy and Psychology, Yerevan, Republic of Armenia
[c] University of St. Andrews, School of Psychology and Neuroscience, St. Andrews, United Kingdom

A B S T R A C T

Despite increasing concern about climate change and widespread demonstrations demanding urgent action, governments worldwide are failing to meet climate pledges, and many have introduced anti-protest laws that limit citizens' ability to hold them accountable. We investigate the impacts of the political efficacy of climate protests and the risks of protest repression on people's motivation to engage in both conventional, normative and radical, non-normative pro-environmental collective action. We ran two experiments (total $N = 443$) among residents in the UK, where recent legislative changes have severely restricted climate protests. Using fabricated news articles, we manipulated political efficacy and repression in a 2x2 between-subjects design. Our manipulations successfully shifted perceptions of political efficacy and the risks of repression. However, they did not directly affect action intentions. Rather, these factors impacted action intentions indirectly by shaping other motives. Specifically, political efficacy exerted a positive indirect effect on normative (but not non-normative) action intentions by shifting people's beliefs about the value of their contribution (Study 1) and the likelihood that taking action will strengthen the movement (Study 2). In line with a backlash effect, and suggesting that restrictions on protest could further spark resistance, repression exerted a positive indirect effect on both normative and non-normative action intentions by generating moral outrage. Exploratory moderation analyses provided further nuance to our findings. For instance, politicised identity was found to attenuate adverse effects of high political efficacy on moral obligation, as well as intensifying the association between protest repression and moral outrage. Our research provides evidence of the causal effects of efficacy and repression on protest intentions, with implications for mobilisation efforts in climate movements.

> "*Our problem is not civil disobedience, our problem is civil obedience. Our problem is that people are obedient all over the world, in the face of poverty and starvation and stupidity and war and cruelty*" – Howard Zinn (2014)

After decades of research and civil society advocacy, it appears that a collective conscience about climate change and its consequences has finally developed recently. Most people surveyed in the European Union and China in 2023 stated that they feel the impact of climate change in their daily lives (80 % and 91 %, respectively; EIB/BVA, 2023). People around the globe also tend to agree that drastic action is needed to avoid a climate-related global catastrophe (84 % EU, 88 % China, 83 % UK, 72 % U.S.). In Europe, a notable 66 % of the public is in favour of governments passing stricter climate-related laws (EIB/BVA, 2023). Nonetheless, data from the European Values Study analysing the 2017–2022 period show that 41.4 % of people would never participate in lawful demonstrations, with only 18 % of the population *ever* having participated (EVS, 2022). The latter figures concern protests on behalf of all causes, so we can assume that collective action participation for climate-related issues is even lower. Hence, we face a conundrum: people seem to be convinced about the critical climatic situation we are in, yet they remain largely demobilised.

This lack of engagement may have crucial consequences. Throughout history, social movements and protests have served as indispensable instruments for a vast array of groups to defend their interests and engender social change (Della Porta & Diani, 2020). It is hard to imagine that the advancements made in matters of race and gender equality, decolonization, LGTBIQ + rights, or even the strides made so far in climate change mitigation would have existed without sustained pressure from collective action (Hunt-Hendrix & Taylor, 2024; Malm, 2021; Ndlovu-Gatsheni, 2020).

Yet, despite the discouraging scenario, the pro-environmental movement has also gained momentum. This spark has been most notable among young people, responsible for creating initiatives like Fridays for Future or the Sunrise Movement, but also among a broader

* Corresponding author.
E-mail addresses: marcos.dono.martin@usc.es (M. Dono), arine.ayanian@gmail.com (A. Ayanian), nt20@st-andrews.ac.uk (N. Tausch).

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range of citizens represented by groups such as Extinction Rebellion and Citizens' Climate Lobby (Extinction Rebellion, 2019; Sorce, 2022). Movements such as these have been critical in raising public awareness and in exerting political influence that led to policy changes such as the adoption of renewable energy targets (see Fisher et al., 2023; Gulliver et al., 2022).

Nonetheless, the impact of these movements still falls short of what is required to avert irreversible climate breakdown. Many governments continue to actively support the fossil fuel industry and, in the face of conflicting priorities, have started to backpedal on climate pledges (Lakhani & Rushe, 2024). In fact, countries all over the globe are failing to meet the goals of the Paris Agreement (Bearak & Popovich, 2022), leading to increasing pessimism about our ability to limit global warming to 1.5 °C (Scranton, 2015). Worryingly, these trends have been accompanied by a wave of anti-protest legislation and police repression of climate protests in countries such as the UK, which have recently approved the Police, Crime, Sentencing and Courts Act 2022 that provides greater powers to prevent protests deemed 'disruptive'. This new law allows for greater use of 'stop and search' practices and more forceful policing methods (Forst, 2024). The Act, which was drafted specifically targeting environmental movements, also includes sentences such as up to 51 weeks in prison for protesters who attach themselves to something in an attempt to prevent them from being moved. It also allows peaceful protesters to be charged with "public nuisance," a criminal offence punishable by up to 10 years in prison. This, alongside the consideration that all protests are "by their nature disruptive" (Forst, 2024, p. 1) has led several analysts, including the Parliament of the United Kingdom's Joint Committee on Human Rights, to view this legislation as an attack on the right to protest peacefully (Badshah, 2022; Forst, 2024).

How does the current landscape of seemingly limited effectiveness and increasing repression of climate protests impact people's motivation to engage in protest to address climate change? Does a perceived lack of efficacy and repression of protest demobilize engagement, or might it instigate a shift to more confrontational, radical action? In the present research, we aim to shed light on these questions by experimentally examining the roles of perceived political efficacy in climate action and protest repression by the authorities in influencing people's willingness to engage in collective action.

1. The current research

In line with previous research, we define collective action as any action one engages in "as a representative of the group and the action is directed at improving the conditions of the entire group" (Wright et al., 1990, p. 995). Thus, collective action ranges from signing petitions and participating in peaceful demonstrations or marches, to more disruptive forms of action such as blocking roads and buildings or damaging property. There is substantial overlap in the predictors of engagement in different forms of collective action, as these often emerge dynamically and frequently co-occur during protests (Uysal et al., 2024). Nonetheless, social movement organizations expend much energy debating the efficacy, ethics, risks and legal implications of different actions, as well as whether the direness of the situation calls for more drastic methods (Malm, 2021). Within the climate movement, different groups such as Extinction Rebellion and Just Stop Oil, have previously advocated for non-violent, disruptive civil disobedience such as occupying construction sites, blocking roads or attacking famous artwork (BBC, 2019; Extinction Rebellion, 2019).

This variability in strategic approaches underlines the importance of understanding the psychological drivers of intentions to engage in different forms of collective action. Previous research studying factors that explain the (de-)radicalization of collective action has distinguished actions in terms of their normativity concerning societal rules and conventions and suggested that radical forms of collective action are more likely to occur as the perceived political efficacy of conventional action drops (Saab et al., 2015; Tausch et al., 2011; Thomas et al., 2014). Thus, as prior work has done, we differentiate between normative (i.e., actions that conform to the rules and norms of society) and non-normative actions (i.e., actions that violate these rules; Wright et al., 1990). Social-psychological research has only begun to understand the factors predicting different types of collective action (Li et al., 2023; Saab et al., 2015; Tausch et al., 2011) and experimental evidence regarding the factors underlying support for non-normative action in the context of the climate movement remains extremely scarce (for an exception, see Uysal, Martinez, & Vestergren, 2025).

The question of what motivates people to engage in collective action has received substantial research attention in social psychology (for reviews, see Agostini & van Zomeren, 2021; Becker & Tausch, 2015; Thomas et al., 2022; van Zomeren et al., 2008). This research effort has attested to the complexity of this phenomenon and demonstrated that a range of psychological factors shapes people's willingness to participate in collective action. Key among these are a sense of injustice and resulting emotional aspects such as anger (van Zomeren et al., 2008), identification with a social movement (i.e., politicised identification; Simon & Klandermans, 2001), and a strong belief in the efficacy of collective action in achieving the desired change (e.g., van Zomeren et al., 2004). The literature also distinguishes different types of efficacy beyond the political efficacy of collective action, which describes the extent in which people believe their political goals can be achieved via collective action (Saab et al., 2015). Aside from this, research has also highlighted that other considerations, such as the efficacy of protest in building or consolidating a social movement (identity consolidation efficacy; Hornsey et al., 2006; Saab et al., 2015) as well as belief in the value of one's individual contribution to the cause (participative efficacy; van Zomeren et al., 2013), motivate participation. Moreover, more recent accounts have further emphasized the importance of moral beliefs that operate largely independently of external rewards, costs, or sanctions (Sabucedo et al., 2018). In fact, both moral outrage, a particular strand of anger caused by the perceived violation of one's moral values (Batson et al., 2007), and moral obligation – a sense of duty to defend those moral values – have both shown to be potent motives underlying action intentions (Ayanian et al., 2021; Sabucedo et al., 2018, 2019).

Because collective action involves multiple interrelated motives that mutually influence each other (see Ayanian et al., 2021; Thomas et al., 2012; Sabucedo et al., 2019; van Zomeren et al., 2012), we argue that an accurate analysis of our political efficacy and protest repression manipulations requires us to consider how these variables impact other collective action motives. Specifically, we examine indirect effects via identity consolidation and participative efficacies, moral outrage, a sense of moral obligation, and politicised identity (Ayanian et al., 2021; Lodewijkx et al., 2008; Thomas & McGarty, 2009). This can help us to better understand previous mixed findings about the ability of political efficacy and protest repression to fuel collective action intentions by underlying paths towards action that may not be detectable without analyses of indirect effects.

We aim to achieve these research goals by experimentally manipulating political efficacy and protest repression. Experimental studies of collective action are scarce (see Aytaç et al., 2018; Uysal et al., 2025; van Zomeren et al., 2004 for exceptions) and have, to our knowledge, never been applied to understanding the impact of manipulated variables via systematic analysis on their effects on other key predictors of collective action, despite predictive models suggesting such relations (Ayanian et al., 2021; Sabucedo et al., 2019; Thomas et al., 2012; Zomeren et al., 2008). Hence, our research not only examines the role of political efficacy and protest repression, but it also provides causal evidence by employing a rarely used experimental approach.

Therefore, we examine the direct effects of political efficacy and protest repression on both normative and non-normative collective action intentions. Then, we also examine their effects on other collective action motives: identity consolidation and participative efficacies, moral

outrage, moral obligation, and identification with the climate movement; and test for political efficacy's and protest repression's indirect effects on action tendencies via these variables. Moreover, although we do not have specific predictions in this regard due precisely to the lack of previous experimental research, manipulating both variables orthogonally will allow us to assess potential interactive effects between these variables. Finally, we engage in a series of exploratory analyses aimed to examine potential moderators to the effects studied, strengthening our attempts to look for nuances that could explain previous mixed findings.

1.1. Political efficacy as a direct predictor of collective action

The importance of instrumental motives has long been emphasized in models of collective action (Gamson, 1992; Klandermans, 1997; Zald & McCarthy, 1979). Social psychological research has focused on the belief that one's group can promote the desired goal and demonstrated that the perceived political efficacy of collective action predicts intentions to get engaged (see van Zomeren et al., 2008; for meta-analytic evidence). As noted above, the anticipated effectiveness of protest can be evaluated along several dimensions (see Hornsey et al., 2006; Saab et al., 2015). Our focus here is on the political efficacy of collective action. Given the recent critiques highlighting the disorganized state of efficacy-related terminology—where different constructs are often labelled interchangeably, and similar operationalizations are assigned distinct labels (Hamann et al., 2024; Uysal et al., 2024)—we clarify that we define political efficacy as any pertaining to the potential collective achievement of the ultimate political goals driving engagement in collective action (Saab et al., 2015). Thus, we understand those measures referring to either actions (i.e. protests) or agents (i.e. we, the movement) as operationalizations of political efficacy as long as they refer to solving political grievances as a group.

Having set the framework for the conceptualization of political efficacy, we find that there is extensive evidence that perceiving collective action as politically efficacious increases motivation to engage in collective action (e.g., Mummendey et al., 1999; Thomas et al., 2012; van Zomeren et al., 2004, 2008). However, other research has found political efficacy to be unrelated or even negatively related to action intentions (Ayanian et al., 2021; Cichocka et al., 2018; Osborne et al., 2015; Tausch et al., 2011), suggesting that a sense of political efficacy can activate different motivational processes resulting in different outcomes. For example, the classic literature on mobilization suggested that a high political efficacy can generate a free-riding effect, meaning that those who believe that the movement will succeed expect to benefit from the action without having to contribute themselves (Olson, 1965). Moreover, studies of collective action intentions in authoritarian countries where the likelihood that the authorities will give in to the protesters' demands is remote, found political efficacy to be unrelated to action intentions, while other forms of efficacy (identity consolidation and participative efficacies) played a greater role in predicting engagement motivation (Ayanian et al., 2021). Finally, research has demonstrated that political efficacy is *negatively* related to intentions to engage in more extreme actions (Tausch et al., 2011), suggesting that a perceived lack of political efficacy might have a radicalizing effect.

In sum, while much research suggests that a sense of political efficacy is important in mobilizing individuals to participate in collective action, there is also conflicting evidence demonstrating that a lack of political efficacy does not necessarily disincentivise participation and may even promote the adoption of more radical, non-normative forms of action. However, ultimately, we side with the view that increased political efficacy generally increases intentions to participate (Sabucedo et al., 2018; Zomeren et al., 2008). Thus, we expect increased perceived political efficacy to impact participation intentions positively (both normative and non-normative). Our rationale is also informed by findings showing that lack of efficacy particularly promotes *violent* non-normative action, while its impact towards non-violent, non-normative action is less clear yet trending towards positive effects (Tausch et al., 2011)

1.2. The impact of political efficacy on other collective action motives

Regarding the indirect impact of political efficacy, we primarily examine its potential influence on other forms of efficacy—namely, participative efficacy and identity consolidation efficacy. The first represents the extent to which an individual believes they can contribute to the success of a movement (van Zomeren et al., 2013) while the second is defined as the perception of the efficacy that the collective will have in building a strong movement by influencing the public besides political actors (Hornsey et al., 2006). While research shows that these three types of efficacy constitute different constructs, we hypothesize a positive spill-over effect from political efficacy towards the other two. At the core of our rationale lies the idea that, as a tool for achieving social demands (Della Porta & Diani, 2020), the ultimate goal of collective action is a political goal. Hence, we argue that the belief that the movement can achieve its political aims represents a higher-order form of efficacy that should empower participants and enhance their perception of the movement's overall strength. Under these circumstances, individuals considering participation would perceive their contribution as more valuable, thereby increasing their self-efficacy and sense of participative efficacy. Furthermore, conceiving a stronger overall movement should also promote the perception that the movement can attract support and persuade the public, fostering identity consolidation efficacy.

Meanwhile, the impact of political efficacy on politicised identity and moral outrage (or the similar construct of affective injustice) has been widely debated. Two seminal collective action models, SIMCA (van Zomeren et al., 2008) and EMSICA (Thomas et al., 2012), differ in terms of whether political efficacy predicts identity or vice versa. In this work, our expectation regarding the impact of political efficacy on politicised identity aligns with EMSICA. The rationale of this model is that political efficacy can spur the emergence of a budding politicised identity (Thomas et al., 2012). Considering our studies are conducted with a general population rather than with activists, we accordingly argue that higher political efficacy will cause a strengthening of the environmentalist identity. Regarding moral outrage, while EMSICA posits that it may co-occur with political efficacy, SIMCA (van Zomeren et al., 2008) does not draw any relation between the two, and neither do other relevant models (Ayanian et al., 2021; Sabucedo et al., 2019). Hence, we did not make specific predictions about the relation between the political efficacy manipulation and moral outrage. Regarding moral obligation, mixed results on its relation with political efficacy (see Ayanian et al., 2021; Sabucedo et al., 2019) prompted us not to make specific predictions about the expected direction of its impact.

1.3. Protest repression as a predictor of collective action

Broadly speaking, repression can be conceptualized as any measure that seeks to "prevent, control, or constrain non-institutional collective action (e.g., protest), including its initiation" (Earl, 2011, p. 263). This typically refers to institutional structures and actions that restrict political opportunities available to those who challenge the established system (Tarrow, 1993). Repression can entail the introduction of laws limiting or prohibiting certain activities, restrictions on the freedom of expression and association, and the introduction of hurdles to the formation of oppositional groups (V-Dem I. T, 2024). For individuals, repressive measures increase the potential costs and risks of engagement in collective action through fines, arrests and imprisonment, or physical threats (see Ayanian et al., 2021). In the present research, we chose to manipulate and assess the impact of protest repression, defined as actions specifically aimed at limiting participation in pro-environmental protests—particularly repressive acts carried out by law enforcement, such as surveillance, arrest, criminal charges, or physical harm (Ayanian et al., 2021; McPhail & McCarthy, 2005). Although protest repression

often stems from broader structural legal changes, such as those discussed above (Forst, 2024), and more subtle forms of repression exist—such as efforts to limit the public presence of protest groups through censorship or barriers to obtaining public representation—we chose to focus on the impact of protest repression. This decision is based on the premise that protest repression is more visible than structural or subtler forms of repression.

Research on the psychological effects of protest repression on activists and potential sympathizers is relatively novel (see Anisin, 2016; Ayanian et al., 2021; Ayanian et al., 2025; Ayanian & Tausch, 2016; Honari et al., 2018; Uysal et al., 2022, 2024) and has thus far yielded mixed findings. On the one hand, and consistent with the intuitive reasoning about its deterrent effects, repression can undermine protest by reducing perceptions of political opportunity (Klandermans, 1984) and instilling fear (Honari, 2018), collective action was found to be less common among concerned people in more repressive countries (Uysal et al., 2024). Nevertheless, research has also supported the opposite relationship, referred to as the 'repression paradox' (Brockett, 1993). According to this idea, attempts to repress social movements can produce a backlash effect and fuel rather than deter protest participation when repressive measures are perceived as illegitimate restrictions of fundamental rights (Ayanian et al., 2021). Furthermore, the violation of critical moral values can prompt people to participate more in response and even towards more subversive courses of action (Dono et al., 2018; Fiske & Rai, 2014). Recent research has provided initial support for the latter, showing that repression can radicalize movements (Li et al., 2023; Uysal, Martinez, & Vestergren, 2025). Overall, we expect increased protest repression to function in this 'paradoxical' way by increasing willingness to engage in both normative and non-normative collective actions. Hereafter, we provide our rationale for the expected effects of protest repression on other predictors of collective action.

1.4. The impact of protest repression on other collective action motives

First, we argue that protest repression jointly enhances moral outrage and moral obligation, as posited by a recent model of moral motivations behind collective action rooted in three interwoven constructs: moral convictions, moral outrage, and moral obligation. According to this model, when moral convictions are threatened, they trigger a sense of "alarm" in the form of moral outrage, which in turn strengthens the perceived obligation to act (Dono et al., 2025). In our case, we argue that protest repression represents a threat to the right to freely protest, that as a fundamental right in a liberal democracy such as the UK would be moralized. Such a threat would then generate a strong negative emotional reaction in the form of moral outrage, creating a moral obligation to act and ultimately fostering participation. This view is supported by research showing that illegitimate repressive measures create a sense of moral outrage (for evidence, see Ayanian et al., 2021; Ayanian & Tausch, 2016; Aytaç et al., 2018; Brockett, 1993; Li et al., 2023) and correlational evidence showing that higher perceived repression indeed increases action tendencies by fostering moral outrage and moral obligation and ultimately increasing the willingness to participate (Ayanian et al., 2021).

Regarding the rest of the collective action motives analysed, we expect perceived protest repression to also yield positive effects on politicised identity, participative efficacy and identity consolidation efficacy (Ayanian et al., 2021). In the case of politicised identity, we believe that protest repression should enhance a key component of politicised identity, such as the awareness that the ingroup is engaged in a political struggle against injustice (Stürmer & Simon, 2004). Moreover, we argue that protest repression may enhance participative efficacy, as individual participation may be perceived as more valuable under heavy repression. Our rationale is that in such conditions, potential participants may see individual action as more necessary and also as showing stronger commitment for the cause, ultimately rendering it more valuable (Strick & van Soolingen, 2018; Zúñiga et al., 2023). As for the impact on identity consolidation efficacy, awareness of protest repression as an attack on a basic right should also boost the perceived ability of the movement to gain additional supporters as a victim of unfair treatment (Saab et al., 2015). Again, these hypotheses are supported by previous correlational evidence that has shown these positive effects (Ayanian et al., 2021).

1.5. Overview of the current research

The present studies experimentally examine the impacts of perceived political efficacy and perceived protest repression of climate protests on intentions to engage in normative and non-normative climate action. To do so, both studies employed a bifactorial, 2 (lower v. higher repression) x 2 (lower v. higher political efficacy) between-subjects experimental design.

Our research is conducted in the UK, which presents several active climate movements and has seen both frequent climate protests and severe repressive measures over the last few years (BBC, 2023; Gayle, 2023). We test both the direct causal effects of political efficacy and repression on normative and non-normative collective action intentions, as well as their indirect effects through the other key motivators previously described. Regarding the testing of indirect effects, for both manipulated political efficacy and protest repression perceptions, the mediational model will be completed assuming that all motives for collective action described above have a positive impact on collective action engagement (Ayanian et al., 2021; Sabucedo et al., 2019; Zomeren et al., 2008), resulting in expected positive indirect effects in all cases.

Finally, we aim to explore whether the effects of manipulated political efficacy and protest repression may be moderated by other variables. Specifically, a higher degree of identification with a group or cause has been found to moderate how the sociopolitical reality is analysed (Williamson et al., 2020) and also how efficacious the group is perceived to be in achieving its goals (Murray et al., 2020). This serves as a rationale for examining whether environmental concern acts as a potential moderator of the effects of interest. The main idea is that individuals who are highly concerned about climate change will experience an exacerbation of the hypothesized effects on political efficacy and repression. Following this logic, if and when politicised identity is not affected by a specific manipulation, we will also seek to explore its role as potential moderator. In a similar fashion to environmental concerns, a high politicised identity can make the manipulations more relevant for individuals, enhancing their effects.

Both studies included in the present work received ethical approval from the ethics committee of [BLINDED]. All study materials and measures, and data are publicly available online (https://osf.io/9fm4x/?view_only=342986a736b8400784c7e53526da80f7).

2. Study 1

We conducted an online study with British residents. We assessed pre-manipulation concern about climate change, the perceived political efficacy of climate protests and the likelihood of risks associated with protesting as manipulation checks, intentions to participate in normative and non-normative collective action as focal outcome variables, and identification with the climate movement, participative efficacy and identity-consolidation efficacy, and moral outrage and moral obligation as additional outcomes and potential mediating variables.

2.1. Method

2.1.1. Sampling

We recruited participants by means of diffusion through university websites and social media announcements and offered them to enter a raffle for 3 vouchers worth £50. We thus employed an effect size sensitivity analysis, maximizing the available resources and then

calculating the minimum effect size that is to be obtained from that sample (Giner-Sorolla et al., 2019). Of 175 respondents, six were excluded as they failed an attention check, resulting in a final sample of 169 participants (78.1 % female, $M_{age} = 21.12$; $SD = 4.79$). A sensitivity analysis conducted with G*Power (Faul et al., 2018) for an ANOVA (main effects and interactions), one numerator degree of freedom and four groups, yielded a minimum detectable effect size of $f = .021$ at $\beta = .80$.

2.1.2. Procedure

Participants entered an online survey using the Qualtrics software. The research was introduced as a study about people's reactions to political news related to climate change. After consenting to participate, participants responded to sociodemographic questions (age, gender, nationality, and ethnicity). Then, participants were told they were about to be exposed to two random news articles about climate change and shown a graphic representing a '*loading screen*' to improve credibility. Participants were randomly assigned to one of the two repression and one of the two efficacy conditions (87 participants low political efficacy, 88 participants high political efficacy, 89 participants low repression, 86 high repression). The order of these manipulations was counterbalanced .[1]

For the repression manipulation, participants read a fabricated news article covering pro-environmental protests. In the high repression condition, police were described as overly aggressive and this was stated to be intentional and part of a new approach for future protests. In the low repression, police were said to be respectful and to have escorted protesters, again in the frame of a novel treatment of protest for the future (adapted from Ayanian, 2017). An alleged protester the ratified each of the descriptions. To manipulate efficacy, we included actual examples of (un)successful past pro-environmental actions, combined with fabricated testimonies of experts on the political impacts of protest. The high efficacy condition included reports of real successful actions backed by the opinion of an expert on protest effectiveness. While the low efficacy condition showed examples of unsuccessful protests again supported by the expert. Next, participants answered basic comprehension checks and responded to the scales measuring the variables of interest.[2] Finally, they were debriefed about the fabricated nature of the stimuli and were given resources for climate anxiety.

2.1.3. Measures

To measure the variables of interest, we used a series of psychometric scales adapted from previous works. All constructs were measured with five-point Likert scales ranging from 1 (totally disagree or similar label) to 5 (totally agree or similar label). All full scales can be consulted openly in the online materials section referred above. To assess the efficacy of our manipulations we used a *political efficacy* ($\omega = .89$) scale and a scale that measured the *perceived risk of repression* ($\omega = .89$) adapted from Ayanian et al. (2021). We also measured *concern about climate change* with a scale adapted from Jylhä et al. (2023) ($\omega = .89$; 2023). Additionally, we measured predictors of collective action with scales adapted from previous research: *participative efficacy* ($\omega = .89$; van Zomeren et al., 2013), *identity consolidation efficacy* ($\omega = .89$; Saab et al., 2015), *politicised identity* ($\omega = .85$; van Zomeren et al., 2012), *moral outrage* ($\omega = .94$; Thomas & McGarty, 2009), and *moral obligation* ($\omega = .87$ Sabucedo et al., 2018). Finaly, we measure collective action intentions with two separate scales, as qualitatively different forms of participation (Becker & Tausch, 2015). The items were adapted from different works (Becker & Tausch, 2015; Sabucedo et al., 2019; van Zomeren et al., 2012) and the distinction between items measuring *normative collective action intentions* ($\omega = .87$) and *non-normative collective action intentions* ($\omega = .92$) was informed by an Exploratory Factor Analysis that can be consulted in the Supplementary Materials.

3. Results and discussion

Descriptive statistics and correlational analyses are reported as part of the Supplementary Materials.

3.1. Manipulation checks

Our manipulations worked in the intended fashion, as participants in the high efficacy condition displayed significantly higher political efficacy compared to participants in the low efficacy condition $t(167) = 3.98$, $p < .001$, $d = .61$, $LLCI = .26$, $ULCI = .78$, and those in the high-repression condition reported a significantly greater likelihood of risk than those in the low-repression condition $t(167) = 6.90$, $p < .001$, $d = 1.06$, $LLCI = .54$, $ULCI = .98$.

3.2. Manipulation effects on collective action intentions

We conducted two separate 2x2 analyses of variance (ANOVA) for intentions to participate in normative and non-normative collective action. For normative collective action intentions, we did not find a statistically significant main effect of efficacy $F\ (1,\ 156) = 3.47$, $p = .057$). Similarly, was no significant effect of the repression manipulation ($F\ (1,\ 156) = .13$, $p = .718$), nor was there a significant interaction between efficacy and repression ($F\ (1,\ 156) = 1.27$, $p = .261$). For non-normative collective action, no significant effects were found for efficacy ($F\ (1,\ 161) = 1.42$, $p = .235$), repression ($F\ (1,\ 161) = .81$, $p = .332$) or their interaction ($F\ (1,\ 161) = 2.32$, $p = .102$).

3.3. Manipulation effects on collective action motives

A series of 2x2 ANOVAs assessed the effects of our manipulations on collective action predictors. We also conducted a simple ANOVA to test the effect of repression on moral outrage. These tests yielded significant effects of efficacy on identity consolidation efficacy ($F(1,\ 165) = 6.01$, $p = .015$, $\eta^2_p = .035$, $LLCI > .00$, $ULCI = .09$) where scores were higher in the high ($M = 3.58$) compared to the lower ($M = 3.23$) political efficacy condition. Moreover, levels of moral outrage were higher ($F\ (1,\ 167) = 50.51$, $p < .001$, $\eta^2_p = .234$, $LLCI = .14$, $ULCI = .32$) in the high ($M = 4.22$) compared to the lower repression ($M = 2.63$) condition. Additionally, participants in the high repression condition also showed lower participative efficacy ($M = 2.89$) than those in the low repression condition ($M = 3.16$; $F\ (1,\ 165) = 4.37$, p=.038, $\eta^2_p = .026$, $LLCI > .00$, $ULCI = .07$). For details of nonsignificant effects, see the Supplement.

3.4. Mediation analyses

Next, we examined whether our manipulations affected action intentions indirectly, through collective action motives, by running a series of mediation analyses on 5000 bootstrapped samples, with 95 % bias-corrected confidence intervals. The efficacy manipulation predicted normative ($B = .17$, $SE = .07$, $p = .025$, $LLCI = .03$, $ULCI = .32$) but not non-normative ($B = .04$, $SE = .03$, $p = .240$, $LLCI = -.01$, $ULCI = .10$) collective action intentions via increased identity consolidation efficacy. Additionally, the efficacy manipulation also exerted indirect effects for normative ($B = .24$, $SE = .11$, $p = .037$, $LLCI = .01$, $ULCI = .44$) but not non-normative ($B = .09$, $SE = .05$, $p = .101$, $LLCI = -.11$, $ULCI = .19$) collective action by increasing a sense of moral obligation.

Protest repression had significant indirect effects on both normative ($B = .56$, $SE = .11$, $p < .001$, $LLCI = .36$, $ULCI = .78$) and non-normative

[1] Both the study design, the main hypotheses and analysis (ANCOVA) and the questionnaire were pre-registered. However the analyses presented contain further tests as other variables were considered at a later stage (https://osf.io/qb7se/?view_only=a0ef5d8827814000bc4fc0bec7371297).

[2] Due to a coding error, the moral outrage measure was presented in between the repression and efficacy manipulations and thus the effects of the latter on outrage will not be examined.

($B = .26$, $SE = .08$, $p < .001$, $LLCI = .12$, $ULCI = .43$) collective action via moral outrage, indicating that repression indirectly increased both normative and non-normative action intentions by arousing moral outrage. There were no further significant indirect effects (see Supplementary Materials for details). Informed by previous research (Ayanian et al., 2021) we also tested a serial mediational model whereby repression predicts moral outrage, which in turn predicts moral obligation as the most proximal predictor of collective action. These tests yielded significant serial indirect effects for both normative ($B = .36$, $SE = .08$, $p < .001$, $LLCI = .21$, $ULCI = .51$) and non-normative ($B = .16$, $SE = .06$, $p = .003$, $LLCI = .06$, $ULCI = .29$) collective action.

3.5. Moderation analyses

A final set of analyses examined whether the extent to which climate change concern and identification with the climate movement moderate the direct and indirect effects of our manipulations to assess the possibility that the collective action motives may be impacted differently by the manipulations as a function of the degree of engagement (Thomas, 2012; 2022). There were no significant interactions for the direct effects of the manipulations on normative or non-normative collective action intentions (see Supplement for details). A series of moderated mediation analyses (PROCESS Model 7; Hayes, 2022) tested whether climate change concern and politicised identity moderate the indirect effects of the manipulations on action tendencies via collective action motives. The results were statistically significant only for the effects of repression on action tendencies via moral outrage. Specifically, climate change concern enhanced the indirect effect of repression condition via moral outrage on both normative, as shown by the index of moderated mediation ($b = .19$, $SE = .07$, $LLCI = .052$, $ULCI = .346$) and non-normative ($b = .10$, $SE = .04$, $LLCI = .031$, $ULCI = .194$) collective action intentions. Simple slopes of the effects of the manipulation on moral outrage were significant and positive at different levels of concern (-1SD, mean, +1SD) steadily increasing from low ($B = 1.22$, $SE = .28$, $p < .001$), to average ($B = 1.70$, $SE = .19$, $p < .001$) and high ($B = 2.19$, $SE = .28$, $p < .001$), indicating an enhancing effect of the moderator. Similarly, politicised identity also catalyzed the indirect effect of repression through moral outrage on both normative ($b = .29$, $SE = .08$, $LLCI = .145$, $ULCI = .454$) and non-normative ($b = .14$, $SE = .05$, $LLCI = .055$, $ULCI = .252$) action intentions. Again, the effects of the repression manipulation on moral outrage increased from low ($B = .93$, $SE = .28$, $p = .001$), to average ($B = 1.69$, $SE = .19$, $p < .001$), to high ($B = 2.46$, $SE = .28$, $p < .001$) levels of politicised identity.

In sum, although we did not observe any direct effects of our manipulations on action intentions, we obtained causal effects on several established motives of participation and found significant indirect effects via these variables on action intentions. Specifically, compared to the low efficacy condition, participants in the high efficacy condition reported higher levels of identity consolidation efficacy, while those participants in the high repression condition showed higher levels of moral outrage and participative efficacy. These effects resulted in statistically significant indirect effects of political efficacy via identity consolidation efficacy and repression through moral outrage. This latter finding supports recent research on the galvanizing effects of repression (Ayanian et al., 2021). Finally, both climate change concern and politicised identity positively moderated the indirect effects of the repression manipulation via moral outrage, suggesting that repression generates more outrage, and in turn stronger action intentions, among those highly invested in the climate movement.

While we believe the results of Study 1 offer promising insights, given that adopting an experimental approach to study collective action motives is a novel practice, we deemed necessary to seek replication of our results in a second experiment. This will allow us to assess the robustness of our data and more accurately inform future research. Furthermore, data from our first study was overrepresented in terms of youth, who seem to show a greater concern for the environment and more sympathy towards environmental movements (Piscitelli & D'Uggento, 2022). For this reason, we believe it is crucial to complement this initial experiment by replicating it with a more diverse sample from the general population. This will enable us to draw stronger conclusions regarding the generalizability of the findings and determine whether young people are more sensitive to our experimental manipulations. Moreover, replication is especially crucial for our mediation and moderation analyses, which—although the indirect effects directly align with our preregistered hypotheses regarding the impact of our manipulations on collective action motives—were not preregistered themselves.

4. Study 2

4.1. Method

4.1.1. Sampling

British participants were recruited via Prolific and completed a survey presented via Qualtrics. An a priori power analysis conducted with G*Power (Faul et al., 2018) with an expected effect size at a small-to-medium value ($f = .18$) main effects and interactions tested with an ANOVA, at $\beta = .80$, $df = 1$ and four groups yielded a suggested the sample size of $n = 245$. We collected data from 268 participants. One participant was excluded due to a failed the attention check, so the final sample comprised 267 participants (60.5 % female, $M_{age} = 40.65$; $SD = 13.30$).

4.1.2. Procedure

The procedure was virtually identical to that of Study 1, albeit we adapted the repression condition to refer to more recent protests. We also corrected the misplacement of the moral outrage measure in Study 1 (see footnote 2). Again, participants were randomly assigned to each level of the experimental factors (131 participants low political efficacy, 137 participants high political efficacy, 133 participants low repression, 135 high repression), completed the relevant scales, and were debriefed.

4.1.3. Measures

We used the same measures as in Study 1. However, as scale reliabilities were very high, and in order to shorten the questionnaire, some of the items were cut. Full measures and scale reliabilities are available online.

5. Results and discussion

5.1. Manipulation checks

As in Study 1, manipulation checks confirmed the success of the efficacy ($t(265) = 5.68$, $p < .001$, $d = .69$, $LLCI = .44$, $ULCI = .95$) and repression ($t(265) = 5.25$, $p < .001$, $d = .64$, $LLCI = .39$, $ULCI = .89$) manipulations. We again ran descriptive and correlational analyses (see Supplement).

5.2. Manipulation effects on collective action intentions

Again, there were no significant effects on intentions to participate in normative collective action, as neither efficacy (F (1, 263) = .18, p = .670), repression (F (1, 263) = .37 p = .542), nor their interaction terms (F (1, 263) = .03, p = .868) had significant effects. The findings were similar for non-normative collective action, with null effects of efficacy (F (1, 263) = .90, p = .341), repression (F (1, 263) = .02, p = .892), and their interaction (F (1, 263) = .48, p = .485).

5.3. Manipulation effects on collective action motives

We observed a statistically significant effect of the efficacy manipulation on participative efficacy ($F(1, 263) = 8.97$, $p = .003$, $\eta_p^2 = .033$,

LLCI > .00, *ULCI* = .07) with participative efficacy being higher in the high political efficacy condition (M = 3.14) than in the lower political efficacy condition (M = 2.76). High repression again caused higher levels of moral outrage (M = 3.38 v. M = 2.72; F(1, 263) = 11.99, p < .001, η_p^2 = .044, *LLCI* = .01, *ULCI* = .09), but this time also lower levels of identity consolidation efficacy (M = 2.92 v. M = 3.16; F(1, 263) = 3.98, p = .047, η_p^2 = .015, *LLCI* >.00, *ULCI* = .04). All other results were non-significant and are reported in the Supplement.

5.4. Mediation analyses

Again we examined whether our manipulations affected action intentions indirectly by running mediation analyses. For the efficacy manipulation, we observed statistically significant indirect effects on both normative (B = .24, SE = .08, p = .005, *LLCI* = .07, *ULCI* = .42) and non-normative (B = .10, SE = .04, p = .007, *LLCI* = .03, *ULCI* = .17) collective action intentions through participative efficacy. The repression manipulation exerted positive indirect effects via moral outrage when predicting both normative (B = .22, SE = .07, p = .002, *LLCI* = .09, *ULCI* = .37) and non-normative (B = .13, SE = .04, p = .003, *LLCI* = .05, *ULCI* = .22) collective action. All other mediations were not statistically significant (see Supplement). We also again found evidence for a serial indirect effect for the effect of repression through moral outrage and moral obligation for both normative (B = .14, SE = .04, p = .001, *LLCI* = .06, *ULCI* = .24) and non-normative (B = .05, SE = .01, p = .003, *LLCI* = .02, *ULCI* = .08) collective action intentions.

5.5. Moderation analyses

As in Study 1, we found no interaction effects for climate change concern or politicised identification with the manipulations when predicting either normative or non-normative action intentions. However, results indicated that these variables moderated several indirect effects. For the efficacy manipulation, we found that political efficacy decreased moral obligation for those with a weak politicised identity, generating statistically significant moderated mediation effects for both normative (b = .10, SE = .04, *LLCI* = .020, *ULCI* = .198) and non-normative (b = .05, SE = .02, *LLCI* = .007, *ULCI* = .086). The effects of the simple slopes analysis show that those with low politicised identity displayed reduced moral obligation as a function of efficacy (B = −.33, SE = .10, p = .001), those with average politicised identity levels also reported reduced moral obligation, although to a lesser degree (B = −.15, SE = .07, p = .040). For those high in politicised identity, the slope was not statistically significant (B = .02, SE = .10, p = .806).

Moderation effects were also obtained for the repression manipulation, such that the positive effect of repression on moral outrage was exacerbated for those who were strongly identified, yielding significant moderated mediation effects for both normative (b = .10, SE = .04, *LLCI* = .011, *ULCI* = .194) and non-normative (b = .06, SE = .03, *LLCI* = .008, *ULCI* = .116) collective action intentions. Similar to Study 1, simple slopes analysis indicates that outrage grew gradually as identification levels increased from low (B = .48, SE = .22, p = .032) to average (B = .83, SE = .15, p < .001), to high (B = 1.19, SE = .22, p < .001). The remaining moderated mediation analyses were non-significant and can be consulted in the Supplement.

Overall, this study replicated the pattern of results of Study 1 in a general population sample. Although our manipulations of efficacy and repression were successful in shifting participants' perceptions of political efficacy of protesting and the risks of repression, they again did not produce statistically significant main effects of action tendencies. Rather, these factors impacted action tendencies indirectly by shaping collective action motives. While the efficacy manipulation exerted a positive effect on action intentions by raising identity consolidation efficacy in Study 1, a similar indirect effect emerged via participative efficacy in the current study. Results on the positive indirect impact of repression on both normative and non-normative action intentions via moral outrage replicated those of Study 1.

Also replicating Study 1, we found that the indirect effects of our manipulations via collective action motives were moderated by identification with the climate movement, but this time not by climate change concern. Again, politicised identity enhanced the indirect effects of repression on normative and non-normative action via moral outrage. Moreover, we found that politicised identity moderated the indirect effect of the efficacy manipulation on collective action intentions via moral obligation, such that those who manifested weaker politicised identities were less prone to experience moral obligation and therefore reported weaker intentions to act when efficacy was high, compared to high identifiers. This indicates that strong identification might act as a buffering factor for the 'free rider' effect (Olson, 1965) described in the introduction.

6. General discussion

The present research aimed to examine the causal evidence of the impact of political efficacy and repression on people's willingness to engage in both normative and more radical, non-normative collective action to address the climate crisis. We aimed to provide novel insights into how these factors might impact the climate movement, with potential implications for communication and mobilization efforts of climate movements. Moreover, our experimental design also contributes to the literature on collective action in general, as causal tests of the roles of efficacy and repression are scarce. To our knowledge, the present studies are the first to simultaneously manipulate these factors and the first to experimentally examine the roles of efficacy and repression in the context of (normative and non-normative) collective action on climate issues.

The two studies yielded a consistent pattern of findings. We showed that our manipulations of efficacy and repression successfully shifted perceptions of the political efficacy of climate protests and the risks associated with protest repression. While the manipulations did not directly affect action tendencies, we obtained several key indirect effects for each of our manipulations that represent significant contributions.

First, we found that political efficacy seems to produce 'spill-over' effects on the other forms of efficacy, such that participants who were made to believe in the high (as opposed to low) political efficacy of climate protests reported stronger beliefs in the ability of protests to build a strong social movement (identity consolidation efficacy; Saab et al., 2015) in Study 1 and greater beliefs in their own participative efficacy (van Zomeren et al., 2013) in Study 2, both of which positively predicted normative collective action intentions. This suggests that political efficacy may function as a higher-order form of collective action-related efficacy. Promoting the belief that collective action can achieve desired outcomes may not only reinforce conviction in the value of individual contributions but also strengthen the belief that others are more likely to join a cause perceived as having a real chance of success. This finding represents a novel contribution to the collective action literature with significant scientific and applied implications. From an academic standpoint, it constitutes the first evidence that we are aware of that political efficacy may shape other types of efficacy. Future research should further examine these relations to establish how other variables or contextual settings may condition these causal links. Similarly, understanding the impact of information about the political effectiveness of protest on intentions to participate has important implications for the communication and mobilization efforts of social movements. Thus our research offers key insights for activists, who may want to prioritize fostering a sense of political efficaciousness of the movement over other considerations of efficacy that may then naturally follow.

The repression manipulation also produced key indirect effects by generating moral outrage, as well as serial indirect effects via moral outrage and moral obligation. These findings suggest that repression can act as a catalyst for action as it elicits emotional reactions that generate a

sense of moral obligation to participate. Hence, our research supports previous literature that posited that repression could stimulate rather than deter protest (Ayanian, 2017; Ayanian et al., 2021; Li et al., 2023; Uysal et al., 2022) and that it may do so by activating a series of interwoven moral reactions (Dono et al., 2025, *in press*) by offering what is, to our knowledge, the first experimental evidence of this. Moreover, this effect was found both for normative and non-normative actions, suggesting that, rather than strictly radicalizing (Li et al., 2023) repression could have a catalysing effect on a wider repertoire of actions within the climate movement. Repression then does not necessarily prompt people towards violent means but sparks a stronger desire to act on behalf of the environmental cause. Determining under what circumstances it produces normative or rather non-normative action thus remains a key question for future research. Finally, further extending prior findings, we demonstrate that the galvanizing effect of repression is strongest among those who are most invested in the issue.

Aside from these novel insights, the question remains as to why our manipulations did not have direct effects on action intentions. As noted earlier, collective action is a markedly multifaceted process, determined by the joint action and interaction of a range of motives (Ayanian et al., 2021; Osborne et al., 2019; Sabucedo et al., 2019; Thomas et al., 2012; van Zomeren et al., 2012). This means that affecting only a subset of these variables might not be enough to produce a meaningful, observable impact on intentions to participate directly. Moreover, although our studies only present preliminary evidence in that respect, political efficacy and repression are likely to have varied and potentially opposing effects on action tendencies through different psychological mechanisms, and work differently among different groups of people. For example, repression generated moral outrage, particularly among people who are highly identified with the climate movement, while also reducing participative efficacy in Study 1 and identity consolidation efficacy in Study 2. Thus, dedicated experimental designs are needed to fully address the mechanisms underlying how these motivating factors of collective action influence each other and finally impact the willingness to engage. One option to orient future research is to move towards increasingly complex designs. However, these have important constraints to be carried out as experiments that grant causal assumptions. Longitudinal, cross-lagged panels are thus an interesting option. Another intriguing alternative is to focus in each factor in a more in-depth fashion, conducting several manipulations on repression or efficacy, for instance, while accounting for different potential moderators.

Our research also highlights some such –exploratory– moderating effects of specific collective action predictors (i.e. politicised identity) in the relationships between other motives (i.e. political efficacy or protest repression and moral obligation). Furthermore, we argue that these effects contribute to advancing ongoing debates in the literature. In Study 2, we observe that high political efficacy caused a reduced sense of moral obligation among those not strongly identified with the climate movement, but this did not occur among high identifiers. This suggests that strong identification might act as a buffering factor for the so-called 'free rider' effect and expands on previous correlational findings demonstrating a negative link between political efficacy and moral obligation (Ayanian et al., 2021). On the other hand perceiving the movement as already efficacious would prevent less mobilized people from forming a moral commitment to the cause and joining, and confirms the view that a sense of moral obligation is closely bound to self-relevant identities (Ayanian et al., 2021; Sabucedo et al., 2019). Further evidence that politicised identity influences the moral dynamics of collective action is the fact that we obtained robust evidence for another moderated mediation in which politicised identity catalyzed the moral outrage caused by higher levels of repression. This suggests that those more strongly identified with the movement interpret repression as a more severe transgression, supporting recent accounts suggesting that tightly-knit collective identities are more resilient in the face of repression and more capable of mobilizing in response (Ayanian et al., 2025).

Notably, our results also highlight the relevance of a "moral pathway"—linking moral outrage to a sense of obligation and ultimately to action intentions—an approach whose predictive strength has been well-documented (Ayanian et al., 2021). Within this framework, the concept of legitimacy emerges as particularly salient. While recent research emphasizes the importance of perceived legitimacy in confrontational collective action (Uysal, Drury, & Acar, 2025). We suggest that this line of inquiry could be expanded to capture the dynamics between repression and mobilization more fully. Specifically, it is essential to examine perceptions of legitimacy not only regarding police actions but also the broader role of the state as the ultimate agent of repression. If repression is seen as legitimate or the government as fundamentally fair, moral outrage and the sense of moral obligation to act may be attenuated. This presents a strategic dilemma for climate movement actors advocating for more radical—yet nonviolent—forms of protest (Malm, 2021), who must carefully frame their actions to maintain public support and recruit future participants.

From a moral psychology perspective, framing protesters as vulnerable victims of intentional repression may amplify moralization and mobilization (Schein & Gray, 2017)Portraying repression as deliberate rather than reactive—can enhance perceptions of immorality, thus intensifying outrage. Moreover, targets of repression must not be perceived as responsible for the retaliation they face. Hence, the perception that protest actions do not harm others appears to be particularly important. While police actions may be interpreted as spontaneous or apolitical, attributing repression to state-level intent can heighten perceptions of moral transgression. However, this effect may be context-dependent. In societies with a long-standing history of repression, citizens may become desensitized, thereby weakening moral reactions and limiting mobilization (Ayanian et al., 2025).

Finally, our findings support the idea that repression can undermine perceptions of movement efficacy, as observed in this study for single instances. This sense of helplessness may suppress further engagement, underscoring the importance of future research into how such demobilizing effects can be counteracted. Understanding the mechanisms that sustain or revive collective efficacy under repression is therefore critical—not only within climate activism but in collective action more broadly.

Ultimately, the current research presents the first experimental evidence of the impact of political efficacy and protest repression perceptions on normative and non-normative collective action participation within environmental movement and its influence on other key predictors. It provides valuable insights to the study of environmental protest (and collective action in general) that could help stimulate further much-needed experimental work on the causal effects of these factors. Our research might also have practical implications that can inform environmental movements looking to encourage people to join their efforts. Our findings suggest, for instance, that stressing repression as an unfair and immoral deed may prompt people to join as moral outrage and moral obligation increase. Furthermore, optimistic messages about the effectiveness of protest may backfire when trying to gain new recruits for the cause, as those less identified with the movement could feel less morally obligated to contribute. The discourse on efficacy is especially delicate, as we have also observed that political inefficacy has negative consequences for mobilization. Perhaps, a more personal approach that focuses on what someone can contribute as an individual within the movement would be a better option when trying to convince a disengaged public.

7. Limitations and future directions

As with every piece of research, our work is not exempt from certain limitations. First, it is important to recall the coding error in Study 1, which implied that moral outrage was coded before the political efficacy manipulation. This meant that we could not examine the potential

effects of political efficacy in Study 1. Nevertheless, concerns on this issue are alleviated by the fact that our second experiment constitutes a better-powered replication of the first, where the error was corrected and the effect of political efficacy on moral outrage could be correctly analysed and interpreted.

Additionally, our research was conducted exclusively in the context of the United Kingdom, suggesting caution when trying to generalize these findings to other contexts, especially those outside the so-called *WEIRD* countries. In this sense, recent research on environmental collective action suggests that people are less likely to act in more repressive contexts with less efficacious environmental policies (Uysal et al., 2024). Thus, macro-level conditions may interact with attitudes and perceptions in shaping participation. We believe that the results are more likely to generalize to other European countries that are also displaying increasingly anti-protest measures (Amnesty International, 2024). Nevertheless, this assertion needs to be treated with caution as differences that could impact how both political efficacy and repression are regarded still exist. Within Europe, for instance, some countries have an older environmental movement, some (i.e. Austria, Germany, Ireland) even have had strong parliamentary representation via 'green' parties. Multi-country research is an exciting perspective that would help us understand which motivational aspects of political efficacy and repression are shared cross-nationally and which are not.

Moreover, our research focused on the intention to participate in collective action and did not assess actual participation, which could affect our conclusions due to the so-called intention behaviour gap (Sheeran & Webb, 2016). However, our focus on general intentions could also have limited the observed effects, possibly influencing the lack of direct effects of our manipulations on collective action intentions. Perhaps the impact of learning about efficacy or repression could be better translated in the short term if we asked about intended participation in a specific upcoming demonstration, as this would provide a concrete political opportunity to participants who would normally be unaware of engagement opportunities.

Despite these limitations, we believe this novel research opens up many avenues for future research, of which we will highlight those that we deem most important. As engagement in collective action is a multi-causal and multi-level phenomenon (see Thomas et al., 2022), further study of other potential variables that moderate the effects observed here is particularly interesting. For instance, it is possible that system justification beliefs (Jost, 2019) could also play a moderating role, as those high on these beliefs may see the repressive actions as more justifiable. Regarding political efficacy, we argue that awareness about the tangible benefits of actions against climate change could moderate the impact of this variable on intentions to act. Because climate change is a structural process, people may not perceive the demands of the movement as tangible improvements, but rather as preventive measures regarding future catastrophes. For instance, even if people think that the government may be forced to ban emissions due to collective pressure, they may not perceive this as an improvement of the current situation. Models that promote environmental action have focused on highlighting risks (Bradley et al., 2020) and stressing the importance of both delayed gratification (Arbuthnott, 2010) and the problem that focusing on hedonic values and gains reasoning pose (Steg et al., 2014). Nevertheless, the improvement of the climatic situation could be framed in terms of tangible benefits like cleaner air that positively affects health (Xue et al., 2022) or cleaner, more enjoyable natural spaces (Williams et al., 2016). We argue that focusing on such tangible benefits could enhance the positive effects of political efficacy.

8. Conclusion

As Zinn's observed in the quote we presented at the beginning of this paper, a problem of our time is that people often fail to challenge what they know is wrong. Unearthing the factors that move people to act collectively against injustices remains one of the elemental tasks in social sciences. Our experimental approach shows promise in identifying meaningful causal effects, but our findings also attest to the multifaceted nature of collective action motives and highlight that participation is likely to be initiated through a causal chain of factors that might differ for different groups, rather than a single factor that directly prompts people to act. This complexity makes this research endeavour more interesting but also more urgent. In a world where people seem convinced that a climatic crisis with dire consequences is impending, too few are acting collectively to hold governments and companies accountable. By uncovering what transforms people's worries into organized collective action, we can hopefully propel a much-needed global collective movement before climatic change has progressed to the extent that results in irrevocable damage.

CRediT authorship contribution statement

Marcos Dono: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Arin Ayanian:** Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Investigation, Conceptualization. **Nicole Tausch:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization.

Data availability statement

All study materials and measures, and data used in the present research are publicly available online at the Open Science Framework Repository (https://osf.io/9fm4x/?view_only=342986a736b8400784c7e53526da80f7).

Declaration of competing interest

The authors declare no competing interests regarding the present article.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jenvp.2025.102697.

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