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From lawful participation to radical protest: how confidence in climate misinformation reshapes the value- and risk-based drivers of environmental activism

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Abstract

Environmental advocacy spans a wide behavioural range, from lawful, institutionally channelled participation to disruptive and sometimes illegal protest, yet the psychological antecedents that distinguish these forms remain unclear. Integrating value-belief-norm theory, the psychometric risk-perception paradigm, and the social identity model of collective action, we examine the value-based and risk-based drivers of moderate and radical climate activism. We further ask whether confidence in fake news, the degree to which people accept demonstrably false climate claims as true, reshapes these drivers. In a national survey of 1,849 adults analysed with regression and interaction models, the two forms of activism rest on partly opposing foundations. Moderate activism draws on a broad coalition of values and risk appraisals, most strongly trust, perceived benefit, and negative emotion. Radical activism is predicted most strongly by confidence in fake news, alongside self-assessed knowledge and system-critical worldviews, whereas trust, perceived risk, and nature-based values are weak or inversely related. Confidence in fake news also moderates established drivers, amplifying, dampening, or reversing their influence. Misinformation susceptibility thus functions less as a simple barrier to accurate appraisal than as an epistemic lens that reorganises how values and perceptions translate into environmental action.

1. Introduction

Anthropogenic climate change has moved from a contested scientific projection to a discernible and accelerating reality. Recent assessments of the Intergovernmental Panel on Climate Change document widespread impacts on ecosystems, food systems, human health, infrastructure, and settlements, while emphasising that delayed mitigation and adaptation narrow the remaining opportunity to secure a liveable and sustainable future (IPCC, 2022, 2023). Because the drivers of emissions are embedded in energy, transport, production, and consumption systems, the problem cannot be resolved by technological substitution alone. It requires sustained political will, regulatory change, and shifts in collective behaviour.

In democratic societies, citizen action is a principal mechanism for generating and maintaining such political will. Public mobilisation shapes electoral incentives, legitimises ambitious policies, and pressures corporations to alter practices that markets alone do not discipline (McAdam, 2017). Climate activism, understood as a repertoire of individual and collective actions undertaken to demand mitigation and adaptation, occupies a strategic position between private concern and structural transformation. Without mobilised publics, scientific warnings and policy proposals rarely become the binding commitments needed for emission reductions.

However, activism is not monolithic. A growing body of scholarship distinguishes between conventional or moderate forms of engagement, such as signing petitions, supporting and joining environmental organisations, and participating in lawful demonstrations, and radical or disruptive approaches that challenge institutional legitimacy and may violate the law to force change (Fisher & Nasrin, 2021; Simpson et al., 2022). The recent prominence of movements that obstruct roadways, occupy infrastructure, or target cultural property has intensified public and academic debates over whether disruptive tactics advance or undermine climate goals. Treating these forms as a single continuum conceals the possibility that they are driven by different psychological and value-based rationales, and that an antecedent promoting lawful support may simultaneously encourage, or fail to encourage, confrontational protest.

This study contributes to this debate in three ways. First, it models moderate and radical climate activism as distinct dependent variables and evaluates a common set of values and psychometric antecedents against both, allowing for a comparative analysis of their drivers rather than presuming equivalence. Second, and most distinctively, it introduces confidence in fake news, defined as the degree to which an individual accepts demonstrably false climate claims as true, both as a direct predictor and as a moderator. Misinformation research has documented the dissemination of false claims and their capacity to weaken support for mitigation; nevertheless, susceptibility to such claims has rarely been examined as a conditioning factor that reshapes how values and risk perceptions translate into action. Third, by drawing on a large national sample and testing interaction effects, this study offers evidence on whether misinformation susceptibility intensifies, dampens, or reverses the mobilising power of established antecedents. Understanding this conditioning role is significant because it indicates that an information environment saturated with falsehoods may be reorganising, rather than simply suppressing, the pathways to climate engagement.

2. Theoretical Background

2.1 The Practical Meaning of Climate Activism

Climate activism refers to voluntary actions undertaken by citizens to influence the trajectory of climate policy and the behaviour of polluting actors. In practical terms, it encompasses a wide repertoire: expressing support for environmental organisations, donating, joining campaigns, attending demonstrations, lobbying representatives, and engaging in civil disobedience. What unites these acts is an orientation towards collective rather than purely private response. Whereas individual mitigation behaviour reduces one's own footprint, activism seeks to alter the rules and structures that shape aggregate emissions (Stern, 2000). This distinction is consequential because the climate problem is fundamentally a matter of collective action, in which private restraint is insufficient without binding institutional change.

From a movement-society perspective, activism performs functions that markets and routine politics often perform poorly. It raises the salience of climate risk, disrupts complacent equilibria, and signals the existence of a constituency willing to reward or punish elected officials for their climate records (McAdam, 2017). Empirically, climate activism has been linked to public opinion, media attention, and agenda-setting, although the effects vary by tactic, framing, and context (Fisher & Nasrin, 2021). Its practical significance lies in its capacity to convert diffuse concern into concentrated political pressure.

2.2 Empirical Research on Climate Activism

A significant amount of empirical work has sought to identify who participates in climate action and how different tactics operate. Survey and panel studies grounded in the social identity model of collective action have consistently found that participation is predicted by grievances, group efficacy, and politicised identity, with moral conviction and anger operating as proximal motivators. A survey of 203 current and prospective Extinction Rebellion participants identified two identity-based pathways predicting collective action behaviour and future intentions: one pathway runs from moral conviction through anger to movement identification, and the other from global identification through participative efficacy to identification (Furlong & Vignoles, 2021). These results indicate that climate engagement is not simply a function of how much individuals know or fear. It also depends on whether they identify with a mobilised collective and judge action to be efficacious and morally required.

A parallel stream of research has examined the consequences of activism, particularly the contested effects of disruptive tactics on public opinion and policy salience. Experimental, quasi-experimental, and field studies report mixed results. Some show that radical or disruptive tactics can make moderate movement factions appear more acceptable and can increase support for more moderate climate organisations, whereas others document backlash against the disruptive actors themselves (Simpson et al., 2022; Ostarek et al., 2024). Recent experimental work on the radical-flank effect refines this picture: the presence of a disruptive flank can raise public support for a moderate centre group when the moderates visibly distance themselves from the radicals, because that distancing makes the centre appear less radical and more relatable (Köhler et al., 2026). This evidence motivates the analytic separation of conventional and disruptive engagement because the antecedents and outcomes that apply to one form do not reliably transfer to the other. Nevertheless, little of this empirical work has examined how susceptibility to climate misinformation conditions participation. This is the gap the present study addresses by treating confidence in fake news as both a predictor and a moderator.

2.3 Moderate versus Radical Climate Activism: Concepts, Episodes, and Drivers

The conceptual distinction between moderate and radical activism rests on differences in tactical repertoire, relationship to legality, and orientation towards existing institutions. Moderate or normative activism operates within legal parameters and works through established channels. It supports environmental organisations, donates, signs petitions, and participates in sanctioned demonstrations while seeking reform rather than disruption. Radical or non-normative activism questions the adequacy of the existing legal and institutional order and is willing to transgress it, embracing disruptive direct action, civil disobedience, and in some accounts sabotage as legitimate or necessary responses to perceived institutional failure (Moskalenko & McCauley, 2009; Simpson et al., 2022). The distinction is not merely descriptive; the two forms may be sustained by different motivational logics, with moderate engagement aligning with the prosocial, norm-driven framework of value-belief-norm theory and radical engagement presupposing a judgement that institutions are incapable of delivering adequate responses (Stern, 2000; van Zomeren, Postmes, & Spears, 2008). This dual-form paradigm is deeply entrenched in the broader study of political mobilisation. Moskalenko and McCauley (2009), in their formulation of the Activism and Radicalism Intention Scales, demonstrated that readiness for legal, non-violent action and readiness for illegal or violent action form two correlated yet empirically distinguishable dimensions rather than a single escalating continuum. Their data offered only mixed support for the popular ‘conveyor belt’ assumption that activism reliably escalates into radicalism, implying that many radicals do not pass through a prior activist stage. A similar dualism is evident in environmental psychology. Gousse-Lessard, Vallerand, Carbonneau, and Lafrenière (2013) found that, whereas harmonious passion for the environmental cause predicted mainstream activist behaviour alone, obsessive passion predicted both mainstream and radical behaviour. Discrete emotions mediated these links: positive emotions carried harmonious passion into mainstream action, while obsessive passion supplied the affective route into radical action. These findings corroborate the present study’s decision to model moderate and radical activism as separate outcomes governed by partly distinct antecedents.

This judgement is vividly illustrated by the recent wave of disruptive climate organisations. Since the founding of Extinction Rebellion in 2018, groups such as Insulate Britain, Just Stop Oil, Letzte Generation (Last Generation) in Germany, and the wider A22 network have engaged in mass civil disobedience and high-profile disruptions: obstructing motorways, occupying oil facilities, glueing themselves to roadways and museum frames, and throwing soup on protected artworks. In each case, activists framed lawbreaking as a proportionate response to governmental inaction (Berglund & Schmidt, 2020; Fisher & Nasrin, 2021). Some activists and commentators have also argued for tactical escalation, including property damage or sabotage directed at fossil-fuel infrastructure. These episodes have produced polarised public reactions and, in several countries, tighter protest regulation, dynamics that can feed back into activist motivation. The system-critical character of this repertoire has been emphasised in political theory and social-movement literature. Agonistic and radical-democratic readings assert that confrontational climate politics challenge the depoliticising consensus framing of mainstream environmentalism and insist on the constitutive role of disagreement and contestation (Kakenmaster, 2019). Meanwhile, leftist and climate-justice currents locate the roots of ecological harm in

capitalist accumulation and call for transformation rather than reform (Reitan & Gibson, 2012). Ethnographic accounts of the radical climate and climate-justice milieu similarly stress its self-conscious distance from institutional politics and its production of situated, partisan knowledge (Russell, 2015). Recent scholarship documents the significant role of youth and Indigenous activists, whose grievances and frontline experiences provide a distinct motivational base for confrontational engagement (Ritchie, 2021). By synthesising these strands, typologies of contemporary climate activists categorise actors according to whether their theory of change is collaborative or confrontational and whether their focus is endogenous or exogenous to existing institutions (Kirsop-Taylor, Russel, & Jensen, 2023), thereby reinforcing the case for treating moderate and radical engagement as qualitatively distinct.

Empirical studies on the factors influencing radical climate activism, as opposed to conventional approaches, reveal a more complex picture than the narrative of system-blame implies. Research applying the social identity model to Extinction Rebellion has found that radical participation is predicted by moral conviction, anger, group efficacy, and identification, mirroring several antecedents of conventional action (Furlong & Vignoles, 2021). However, large panel studies that directly compare the two forms report that established predictors of collective action travel poorly to radical intentions. In a three-wave study of 1,427 climate action supporters, radical intentions were rare and were most strongly distinguished by youth, personality, and perceived collective victimhood rather than by the standard cluster of ideology, efficacy, and identity variables (Hornsey et al., 2026). System-critical commitment also does not entail policy ignorance. Corry and Reiner (2021) found that participants in Climate Camp direct-action networks displayed substantial interest in and understanding of climate-policy debates, suggesting that support for systemic change is not necessarily associated with policy ignorance. This pattern anticipates one of the present study's more counterintuitive results: self-assessed knowledge is a stronger predictor of radical participation than of moderate engagement. Other studies indicate that anticipated and experienced state repression can have divergent emotional consequences, with anger, contempt, and fear shaping normative and non-normative climate action intentions in different ways (Davies-Rommetveit et al., 2026). Collectively, this literature indicates that radical engagement draws on grievances, moral urgency, and a distrustful or counter-consensus epistemic posture in ways that may diverge from, and at times invert, the drivers of moderate engagement. This divergence is precisely what renders the theoretical study of confidence in fake news intriguing, because acceptance of false or counter-consensus climate claims may affect confrontational action differently from conventional action.

To make these contrasts explicit, Table 1 summarises the principal differences between moderate and radical climate activism along the dimensions of legality, institutional orientation, tactical repertoire, theoretical lineage, and empirically documented drivers.

Table 1
Comparison of moderate and radical climate activism.

Dimension	Moderate climate activism	Radical climate activism
Relationship to law	Law-abiding; acts within legal limits	Willing to break the law; civil disobedience and, at the extreme, sabotage
Institutional orientation	Reformist; works through existing institutions	System-critical; contests the legitimacy of existing institutions
Typical repertoire	Supporting and joining organisations, petitions, and sanctioned demonstrations	Road blockades, occupations, disruption of events and artworks, and infrastructure sabotage
Illustrative actors	Established environmental NGOs and mainstream campaigns	Extinction Rebellion, Just Stop Oil, Insulate Britain, Letzte Generation, the A22 network
Theoretical lineage	Value-belief-norm theory; psychometric risk-perception	Social identity model of collective action; grievance and system-blame models
Documented drivers	Concern, trust, perceived benefit, prosocial values, negative emotion	Moral conviction, anger, collective victimhood, system distrust, counter-consensus belief
Public reception	Broadly sympathetic; majority support for moderate goals	Polarising; minority support and frequent backlash effects

Note. Dimensions synthesised from the conceptual and empirical literature discussed in Section 2.3.

3. Research Model and Hypotheses

Building on the theoretical discussion above, the research model specifies 11 substantive antecedents: five value variables and five psychometric risk-perception variables, together with confidence in fake news, as predictors of climate activism, while treating socio-demographic characteristics (gender, education, income, and age) as controls. The model is summarised in Fig. 1. The hypotheses are organised into two layers. First, the paradigm-level layer compares the two families of antecedents and predicts how their relative influence differs between moderate and radical forms of activism. Second, the variable-level layer advances a single hypothesis for each antecedent, stating the expected direction of its effect and, where theory implies an asymmetry, the form in which the effect is expected to be comparatively stronger. Confidence in fake news enters the model both as a direct predictor and as a moderator, and is hypothesised to moderate the influence of positively significant antecedents.

3.1 Value Variables versus Psychometric Paradigm Factors

Before turning to individual antecedents, comparing the two theoretical families from which they are drawn is useful because they embody fundamentally different accounts of why people act on environmental risk and, therefore, imply different relationships with the two forms of activism. The psychometric paradigm conceives environmentally relevant behaviour as a response to appraised risk: individuals weigh the severity, controllability, and benefits of a hazard, calibrate these judgements against the trustworthiness of responsible institutions and their knowledge, and act to manage the threat (Slovic, 1987). The constructs in this family, namely perceived risk, perceived benefit, knowledge, trust, and the affect attached to risk, are by their nature orientated towards problem-solving within the existing order. They presuppose that institutions can be informed, trusted, and worked through and that they motivate the kind of measured, instrumentally rational participation that characterises conventional engagement. Consequently, the psychometric pathway is expected to be more closely associated with moderate activism, which seeks to manage climate risk through lawful, institutionally channelled means.

Value orientations operate using a different logic. Rather than appraising a hazard instrumentally, the value variables of environmentalism, political ideology, deep ecology, eco-socialism, and social ecology express a deep commitment to the moral standing of nature and the legitimacy of the prevailing social and economic order. Several of these orientations are explicitly system-critical; they locate the source of environmental harm not in a discrete, manageable risk but as inherent in the structure of capitalism, hierarchy, or anthropocentrism itself. Collective-action research reveals that a moral, system-blaming appraisal, specifically the conviction that a grievance flows from an illegitimate order rather than from a remediable failure within it, justifies non-normative confrontational action (van Zomeren et al., 2008). Because values supply moral conviction and the system-critical diagnosis that justifies transgressing institutional boundaries, the value pathway is expected to be comparatively more relevant to radical activism, which contests the legitimacy of the existing order, rather than working within it.

Because no prior study has pitted these two families of antecedents against each other across moderate and radical activism, the following two hypotheses are advanced as a theoretical synthesis of the value-belief-norm, psychometric risk-perception, and collective-action perspectives rather than as a claim inherited from any single empirical source. They acknowledge that both families contribute to both forms of activism and predict a difference in relative emphasis, such that the centre of gravity of the value family lies closer to radical activism and that of the psychometric family lies closer to moderate activism.

H1. Value variables exert a comparatively stronger influence on radical climate activism than do psychometric paradigm factors.

H2. Psychometric paradigm factors exert a comparatively stronger influence on moderate climate activism than value variables do.

3.2 Value Variables

Environmentalism captures the extent to which individuals experience their lives as interconnected with the natural world and value a harmonious relationship with it. Within the value-belief-norm theory, such a biospheric orientation is the wellspring of ecological concern and of the personal norms that translate concern into actionBecause prior work shows that concern for nature raises engagement of many kinds, we expect environmentalism to predict activism broadly. Where identification with nature is coupled with the sense that the system is failing it, that pull may lean somewhat more towards the radical form, though we treat this as a difference of degree rather than a sharp divide.

H3. Environmentalism is positively associated with climate activism, and this association is comparatively stronger for radical than for moderate climate activism.

Political ideology shapes citizens' interpretations of environmental risks and the legitimate scope of collective responses. A consistent body of survey research reveals that progressive or left-leaning orientations are associated with greater acceptance of climate science and stronger support for mitigation, reflecting underlying differences in beliefs about the proper role of the government, the value of equality, and the limits of markets (McCright & Dunlap, 2011). Crucially, a progressive worldview is also more receptive to system-critical diagnoses of environmental problems and more willing to question the legitimacy of prevailing institutional arrangements. Because this system-critical disposition precisely supplies the ideological warrant that underwrites confrontational tactics, progressive ideology is expected to energise both forms of engagement, with the association expected to lean comparatively more towards the radical form.

H4. Progressive ideology is positively associated with climate activism, and this association is comparatively stronger for radical than for moderate climate activism.

Deep ecology posits that nature possesses an intrinsic worth equivalent to that of humanity, necessitating a consideration of human interests alongside those of the nonhuman realm. This biocentric worldview, rooted in biospheric egalitarianism and the intrinsic value of nature (Naess, 1973), deepens moral concern about ecological harm. Its critique is directed less at particular institutions than at anthropocentrism itself, the belief that human interests take priority over the rest of the living world. When such a worldview meets the judgement that the prevailing order cannot honour nature's intrinsic worth, collective-action research suggests it can supply the moral warrant for acting outside sanctioned channels

rather than working incrementally within them (van Zomeren et al., 2008). Deep ecology, then, is expected to predict activism broadly, with a comparatively stronger association with its radical form.

H5. Deep ecology is positively associated with climate activism, and this association is comparatively stronger for radical than for moderate climate activism.

Eco-socialism and social ecology are system-critical worldviews, but they diagnose different root causes. Eco-socialism traces environmental degradation primarily to capitalist accumulation and the profit imperative, whereas social ecology, following Bookchin (1982), traces it to entrenched relations of hierarchy, domination, and authority that predate and extend beyond the market. Both nonetheless locate the problem in prevailing social structures rather than in isolated, remediable failures, and both imply that meaningful change requires transcending the existing institutional order. This shared system-blame furnishes the ideological justification that collective-action research identifies as a precursor to non-normative, system-challenging action. When individuals attribute a grievance to the structure of the system itself rather than to remediable failures within it, confrontational tactics become more thinkable and legitimate (van Zomeren et al., 2008). Given this system-blame content, these worldviews are expected to predict activism broadly while showing a comparatively stronger association with the radical form.

H6. Eco-socialism is positively associated with climate activism, and this association is comparatively stronger for radical than for moderate climate activism.

H7. Social ecology is positively associated with climate activism, and this association is comparatively stronger for radical than for moderate climate activism.

3.3 Psychometric Risk-Perception Variables

The psychometric paradigm holds that the behavioural response to a hazard is governed by its subjective texture, namely, dread, controllability, and the trustworthiness of responsible institutions, rather than by objective probability alone (Slovic, 1987). Perceived risk, the appraisal that climate change constitutes a grave and personal threat, is among the most robust correlates of climate concern and constructive engagement in national contexts. Because heightened threat appraisal motivates protective, problem-focused action channelled through legitimate avenues, and because recent work indicates that heightened risk perception can feed radical as well as moderate engagement, perceived risk is expected to be associated comparatively more strongly, though not exclusively, with moderate activism.

H8. Perceived risk is positively associated with climate activism, and this association is comparatively stronger for moderate than for radical climate activism.

Perceived benefit, the belief that addressing climate change yields tangible economic and social gains, reframes mitigation as an opportunity rather than a sacrifice, thereby lowering the motivational cost of engagement. Gain-framed appraisals appeal to a pragmatic, reform-orientated logic in which climate action is pursued because it pays, a logic that is most readily satisfied through lawful participation channelled into existing institutions and markets. As this constructive opportunity-based framing fits the moderate repertoire rather than the system-rejecting stance of confrontation, perceived benefit is expected to weigh more heavily on moderate than on radical activism.

H9. Perceived benefits are positively associated with climate activism, and this association is comparatively stronger for moderate climate activism than for radical climate activism.

Trust in climate information sources reduces uncertainty, lends credibility to calls for action, and is a central construct in the psychometric paradigm because confidence in responsible institutions shapes how risk is appraised and acted upon (Slovic, 1987). However, trust in mainstream sources presupposes the acceptance of the legitimacy of those institutions, a premise that radical engagement rejects. Trust should, therefore, promote lawful engagement channelled through legitimate organisations while weakly or even negatively bearing on the confrontational action that is predicated on institutional distrust.

H10. Trust is positively associated with climate activism, and this association is comparatively stronger for moderate than for radical climate activism.

Knowledge, or the perceived adequacy of one's own understanding of climate risk, enhances perceived behavioural control and confidence in one's judgements, both of which increase the willingness to act. A secure sense of understanding lowers the uncertainty that deters participation and supports the deliberate, information-based engagement characteristic of conventional activism, in which citizens act through legitimate channels based on what they believe themselves to know. As this calibrated, control-enhancing pathway has, in prior literature, been linked more to lawful than to confrontational participation, self-assessed knowledge is tentatively expected to exert a comparatively stronger influence on moderate activism.

H11. Knowledge is positively associated with climate activism, and this association is comparatively stronger for moderate than for radical climate activism.

Negative emotions, including anxiety, anger, and depression, evoked by contemplating climate change, function as motivational engines that convert cognitive appraisal into behavioural readiness. Affective states such as worry and concern are consistently among the stronger correlates of climate risk perception and engagement in empirical literature (van der Linden, 2017). Anger in particular is the affective core of collective-action models, where it operates as a state of action readiness that propels confrontation with those held responsible for injustice (van Zomeren et al., 2008). A related strand on efficacy messaging indicates that discrete climate emotions are not interchangeable in their behavioural consequences. Feldman and Hart (2015) found that messages emphasising political efficacy raised participation chiefly by increasing hope, that fear bore an inconsistent and often dampening relation to participation, and that anger was not reliably engaged by efficacy appeals at all. This suggests that the affective pathways of activism are distinct. This leaves open the possibility, borne out in the present analysis, that the net affective charge may flow more readily into lawful than confrontational participation. Because intense, anger-laden affect energises the disruptive, system-challenging repertoire more than it measures conventional participation, negative emotions are expected to bear more strongly on radical than on moderate activism.

H12. Negative emotion is positively associated with climate activism, and this association is comparatively stronger for radical than for moderate climate activism.

3.4 Confidence in Fake News as Predictor and Moderator

Confidence in fake news reflects the extent to which an individual accepts false or misleading climate claims as factual. The construct resides at the convergence of two fields that have rarely been brought together: the study of climate misinformation and the study of collective action. From the misinformation perspective, the immediate expectation is negative. A large body of research indicates that exposure to false climate claims diminishes accurate risk appraisal, weakens the perception of scientific consensus, and erodes support for mitigation policies, with the inoculation and consensus-messaging literature treating misperception as an obstacle to constructive engagement (van der Linden, 2017). Conceptually, ‘fake news’ is best understood as fabricated information that mimics the form of legitimate journalism without its editorial processes or intent, sitting alongside the broader categories of misinformation and disinformation (Lazer et al., 2018). Field reviews position this phenomenon along the two dimensions of facticity and intent to deceive, and they emphasise the cognitive vulnerabilities, such as confirmation bias, selective exposure, and a lack of analytical thinking that make audiences receptive to it (Tandoc, 2019). In line with this, the psychology of misinformation indicates that susceptibility to false content is driven less by partisan-motivated reasoning than by the failure to engage in reflective reasoning and gaps in relevant knowledge (Pennycook & Rand, 2021). In the climate domain, organised misinformation campaigns, funded and amplified by an identifiable network of think tanks, fossil fuel interests, and contrarian outlets, have been shown to confuse public discourse, deepen polarisation, and stall mitigation support (Treen, Grant, & Nash, 2020). Behavioural evidence is more equivocal than a simple deficit account implies. Experimental exposure to fake climate news produces only small effects on belief and consensus estimates relative to ideology and partisanship (Drummond, Siegrist, & Árvai, 2020). Other findings complicate this picture. Suggestive evidence from outside the climate domain hints that brief exposure to fabricated content can covertly shift behaviour outside conscious awareness (Bastick, 2021), and that, in the electoral rather than the climate sphere, misinformation exposure has been linked to shifts in political choices such as populist voting (Cantarella, Fraccaroli, & Volpe, 2023). According to this interpretation, citizens with greater confidence in fake news should exhibit less, rather than increased, mobilisation.

However, susceptibility to misinformation is not only a cognitive deficit; it also signifies a broader epistemic and social posture. Accepting counter-consensus climate claims typically requires discounting the institutions that disseminate the consensus, including scientific bodies, mainstream media, and governments. Therefore, it carries generalised institutional distrust and an oppositional stance towards authoritative knowledge. This posture maps directly onto the antecedents that collective action theory identifies as engines of non-normative action: the perceived illegitimacy of authorities, a grievance attributed to the system itself, and a willingness to act outside sanctioned channels (van Zomeren et al., 2008).

Research on the contemporary information environment reinforces the link between disinformation susceptibility and an oppositional political style, revealing that disinformation distribution and online activism are entangled and unevenly distributed across the ideological spectrum rather than reducible to a single partisan camp (Freelon, Marwick, & Kreiss, 2020). Where conventional engagement depends on trusting institutions enough to work through them, confrontational engagement depends on distrusting them enough to work against them, and confidence in fake news may, on this reading, be associated with that distrust rather than serving as a definitive marker of it. Comparative evidence supports this reasoning. Panel research that distinguishes conventional from radical climate intentions finds that radical intentions are rare, decoupled from conventional concerns and efficacy, and are even negatively associated with beliefs in mainstream climate claims, pointing to a distinct, grievance-laden, and distrustful base (Hornsey et al., 2026).

Two additional considerations support this prediction. First, the relationship between misinformation susceptibility and engagement is likely to be form-specific rather than uniform because moderate activism is built on trust and accurate appraisal. Confidence in fake news should do little to mobilise it and may even dampen it, whereas radical activism, built on distrust and grievance, should be where the mobilising potential of a counter-consensus orientation is concentrated. Second, the social distribution of misinformation susceptibility, which tends to be higher among groups that are also more drawn to confrontational politics, reinforces the expectation that its strongest behavioural correlation lies with the

radical rather than the moderate form. Taken together, these arguments lead us to expect that confidence in fake news is positively associated with activism overall and more strongly with radical activism, although a naive misinformation-deficit account would predict the opposite.

H13. Confidence in fake news is positively associated with climate activism, and this association is comparatively stronger for radical than for moderate climate activism.

Beyond its direct effect, confidence in fake news is hypothesised to operate as a moderator that strengthens the mobilising influence of positively significant antecedents. The mechanism is straightforward. A heightened, misinformation-laden epistemic state intensifies the affective and ideological reading of climate information. Where a pre-existing tendency already predisposes a citizen to act, and a propensity to embrace alarming or system-critical claims can further magnify that inclination by reinforcing the perception of urgency or distrust in responsible institutions. In appraisal terms, a credulous, counter-consensus perspective removes the sceptical discounting that ordinarily tempers how strongly a given value or perception translates into action, ensuring that the same antecedent yields a steeper behavioural response among those high in confidence in fake news. Thus, we advance a general moderation hypothesis and test it for antecedents that emerge as positively significant in the direct-effects models.

H14. Confidence in fake news moderates the association between positively significant antecedents and climate activism, with the association hypothesised to be stronger at higher levels of confidence in fake news.

Table 2 presents a summary of the hypotheses.

Table 2
Summary of hypotheses.

Hypothesis	Proposed relationship	Expected sign
H1	Value variables exert a stronger influence on radical activism than psychometric factors	+ (paradigm)
H2	Psychometric factors exert a stronger influence on moderate activism than value variables	+ (paradigm)
H3	Environmentalism → Climate activism (stronger for radical)	+
H4	Progressive ideology → Climate activism (stronger for radical)	+
H5	Deep ecology → Climate activism (stronger for radical)	+
H6	Eco-socialism → Climate activism (stronger for radical)	+
H7	Social ecology → Climate activism (stronger for radical)	+
H8	Perceived risk → Climate activism (stronger for moderate)	+
H9	Perceived benefit → Climate activism (stronger for moderate)	+
H10	Trust → Climate activism (stronger for moderate)	+
H11	Knowledge → Climate activism (stronger for moderate)	+
H12	Negative emotion → Climate activism (stronger for radical)	+
H13	Confidence in fake news → Climate activism (stronger for radical)	+
H14	Confidence in fake news × positive antecedents → activism (amplifying)	+ (moderation)

Note. '+' denotes a hypothesised positive association; the parenthetical text notes the form for which the association is expected to be comparatively stronger. H1 and H2 are paradigm-level comparisons. H14 is tested for antecedents that emerge as positively significant in the direct-effects models.

4. Research Design

4.1 Data and Sample

Data were collected through a nationwide online panel survey of the general public, administered between 19 June and 1 July 2025. The target population comprised residents aged sixteen and older across all seventeen metropolitan cities and provinces of the country. The sample was drawn using proportional quota allocation according to the population distribution of sex, age, and region, ensuring that the resulting sample would approximate the national profile of these characteristics. A total of 1,970 respondents completed the survey. Following listwise screening for missing data and quality checks, the analytic sample used in the regression models comprised 1,849 respondents. All variance-inflation-factor values remained below 2.4, indicating that multicollinearity did not threaten the estimates.

The resulting sample was almost evenly balanced by sex, with men comprising 49.4% and women 50.6% of the respondents. The age distribution was somewhat skewed towards older demographics, reflecting the national population structure: respondents aged 16–29 constituted 15.7% of the sample, those in their thirties 15.0%, those in their forties 17.1%, those in their fifties 19.3%, and those aged sixty and above 32.9%. Geographically, the sample spanned all seventeen administrative regions, with the largest shares drawn from the most populous areas, Gyeonggi Province (26.3%) and Seoul (18.7%), as implied by the proportional allocation design. The sample exhibited a notable level of educational attainment: 62.3% held a university degree, an additional 8.0% had completed graduate studies or higher, 20.6% had a high school education, and the remainder fell into other categories. These characteristics inform the operationalisation of the socio-demographic controls (gender, age, education, and household income) included in the analysis.

4.2 Measurement

In Table 3, all substantive constructs were measured using multi-item self-report scales, and wherever possible, the items were drawn from, or adapted from, validated instruments in the published literature. Where no identical items existed, the survey employed items modelled closely on conceptually similar measures, as noted below. The two dependent variables, moderate and radical climate activism, were each captured using four items on a five-point Likert scale. The moderate-activism items, which tap positive views of support for, willingness to join, and willingness to participate in lawful protest by environmental organisations, follow the logic of established normative collective-action and environmental-activism scales (Schmitt et al., 2019; Bamberg, Rees & Schulte, 2018); no single prior scale distinguishes moderate from radical climate activism in exactly this way. Hence, the radical-activism items, namely endorsing illegal action, dismantling existing institutions, and willingness to join or protest with law-breaking groups, were newly written for this study but modelled on the conceptual distinction between normative and non-normative collective action and on items used in comparative studies of radical climate intentions (van Zomeren et al., 2008; Hornsey et al., 2026).

Among the value variables, environmentalism was measured with two items on connectedness to and the importance of maintaining a good relationship with nature, adapted from identification with nature and pro-environmental identity measures (Schmitt et al., 2019). Political ideology was captured by a single seven-point liberal–conservative self-placement item, a standard operationalisation in the climate attitude literature (McCright & Dunlap, 2011). Deep ecology, eco-socialism, and social ecology were each assessed with two items written for this study to express the core tenets of these environmental-philosophical positions: the intrinsic worth of nature, the relationship between capitalism and the environment, and the role of social hierarchy in environmental destruction, respectively. Because no widely validated short scales for these specific worldviews exist, the items were composed to reflect the standard scholarly characterisations of each position rather than being borrowed verbatim from a single source.

The psychometric risk-perception constructs were operationalised in line with the psychometric paradigm and climate risk-perception research (Slovic, 1987; van der Linden, 2017). Perceived risk (two items on the seriousness of climate change and expected harm to oneself and one's family) and knowledge (two items on the perceived adequacy of one's own climate knowledge relative to others) were adapted from standard climate risk-perception and subjective-knowledge measures. Perceived benefits (two items on the economic gains of addressing climate change) were written to parallel the perceived risk items on the benefit side, as comparable gain-framed items are less standardised in the literature. Trust was measured as confidence in climate information from a range of sources, following the source-trust component of risk-perception models. Negative emotion was assessed on a seven-point intensity scale capturing eco-anxiety, eco-anger, and eco-depression, drawing on recent work that distinguishes discrete climate emotions (van der Linden, 2017). Confidence in fake news was measured using a battery of ten true-or-false climate statements, each a documented item of climate misinformation, with higher scores indicating greater acceptance of demonstrably false claims. This true/false misinformation-endorsement format follows the approach used in misinformation and inoculation research rather than a pre-existing single scale (van der Linden, 2017). The statements were drawn from the documented repertoire of climate-change misinformation catalogued in the misinformation literature (for example, claims that sea level rise is exaggerated or that carbon dioxide is unrelated to warming), ensuring that endorsement indices acceptance of demonstrably false, counter-consensus content rather than mere uncertainty (Treen et al., 2020; Tandoc, 2019). Internal consistency, reported as Cronbach's α, was acceptable for the multi-item scale. The details of the measurements are listed in Table 3.

Table 3
Measurement items, sub-dimensions, and reliability.

Conception	Sub-dimension	Items	Cronbach's α	Scale
Dependent Variable	Moderate climate activism	Positive view of, support for, willingness to join, and willingness to join lawful protests organised by environmental organisations addressing climate change (4 items).	.854	5-Likert
	Radical climate activism	Belief that illegal action and dismantling existing institutions are necessary; willingness to join or protest with lawbreaking radical environmental groups (4 items).	.912	5-Likert
Value Variables	Environmentalism	My life is closely connected to nature; maintaining a good relationship with nature is very important (2 items).	.729	5-Likert
	Ideology (progressive)	Self-placement on a liberal–conservative dimension (1 item).	–	7-Likert
	Deep ecology	Nature is as valuable as human beings; humans should consider the interests of nature (2 items).	.675	5-Likert
	Eco-socialism	Capitalist development inevitably leads to environmental destruction; environmental problems can only be solved by moving beyond capitalism (2 items).	.618	5-Likert
	Social ecology	Problems are solved through autonomous management without government intervention; human hierarchies are the source of environmental destruction (2 items).	.611	5-Likert
Risk Perception	Perceived risk	Climate change is an incomparably serious problem and will cause significant harm to my family and me (2 items).	.763	5-Likert
	Perceived benefit	Solving climate change would bring tremendous economic benefits and substantial economic development (2 items).	.819	5-Likert
	Knowledge	I have sufficient scientific knowledge about climate-related risks and know more than others (2 items).	.814	5-Likert
	Trust	Trust in climate-change information provided by various sources.	.822	5-Likert
	Negative emotion	Strength of eco-anxiety, eco-anger, and eco-depression felt when thinking about climate change.	.819	7-Likert
Confidence In Fake News	(10 true/false items)	Acceptance of ten false or misleading climate statements (e.g., sea level rise is exaggerated; CO_2 is unrelated to climate change); higher scores indicate greater confidence in fake news.	–	4-Likert

Note. Higher confidence scores for fake news indicates a greater acceptance of false climate claims.

4.3 Analytic Strategy

The analysis is conducted in four stages. First, frequency analyses described the distribution of responses across moderate and radical activism items. Second, analysis of variance and t-tests examined the differences between the two types of activism and in confidence in fake news across socio-demographic groups. Third, a Pearson correlation matrix establishes a bivariate structure among the study variables. Fourth, ordinary least squares (OLS) regression estimates the direct effects of the controls and eleven substantive antecedents on each activism type, following which the interaction terms between confidence in fake news and each antecedent are added to test the moderation hypothesis. Significant interactions were probed using simple-slope tests and visualised at low, middle, and high moderator levels.

5. Analysis and Results

Figures 2 and 3 present the distribution of agreement across moderate and radical activism items. For moderate activism, agreement is substantial and rises with the abstractness of the commitment: a majority expresses a positive view of and support for environmental organisations (53.9% and 53.4% agree, respectively), whereas willingness to actually join (28.6%) or participate in protests (29.6%) is lower, with a corresponding rise in disagreement for more demanding behaviours. This gradient mirrors the well-documented gap between sympathetic attitudes and costly behavioural commitments in pro-environmental engagement (Stern, 2000).

For radical activism, the pattern is reversed and more polarised. Disagreement is the modal response across all four items and increases with the radicalism of the act, from 34.9% for endorsing illegal actions to 44.9% for the willingness to join large-scale protests by radical groups. Even so, a nontrivial minority, between approximately 22% and 27%, endorsed each radical item, indicating that confrontational orientations, while clearly a

minority position, are not marginal. The coexistence of broad sympathy for moderate engagement with a sizeable confrontational minority underscores the value of modelling the two forms separately rather than as a single scale.

Read against the theoretical literature, these distributions are instructive. The steep attitude-behaviour gradient within moderate activism mirrors the long-standing finding that generalised environmental concern is widely shared but translates into costly participation for only a minority, because action depends not on concern alone but on the activation of personal norms and a sense of efficacy (Stern, 2000; Bamberg et al., 2018). By contrast, the radical distribution exhibits the rarity that comparative studies report for non-normative intentions: such intentions are confined to a committed minority and do not follow smoothly from concern, fitting the view that they rest on a distinct motivational base of grievance and system-blame rather than on incremental escalation of conventional sentiment (Hornsey et al., 2026). That one-fifth to one-quarter of respondents endorsing confrontational items signal a reservoir of potential support for disruptive groups that is far from negligible, echoing the rapid mobilisation observed around organisations such as Extinction Rebellion and Just Stop Oil.

Table 4 reports the analysis of variance and t-test comparisons across socio-demographic groups. Moderate activism differs significantly by age ($F = 5.276$, $p < .001$) and by household income ($F = 12.757$, $p < .001$), with the highest means among respondents in their fifties (3.348) and in high-income households (3.312), suggesting that lawful engagement is most pronounced among more established and resourced segments. Radical activism likewise varies by educational background ($t = 2.664$, $p < .01$), age ($F = 7.072$, $p < .001$), and income ($F = 4.781$, $p < .01$); however, its pattern differs: it is somewhat higher among those with less than a college education (2.828) and peaks in the thirties (2.885), in keeping with the view that confrontational orientations draw on a different demographic base than conventional participation. Confidence in fake news differs by gender ($t = 2.500$, $p < .05$), education ($t = 2.642$, $p < .01$), and age ($F = 7.333$, $p < .001$), being higher among men and among the less educated, in line with research on the social distribution of misinformation susceptibility (van der Linden, 2017).

The divergence in the demographic profiles of the two types of activism is theoretically meaningful. Moderate engagement increases with age, and income fits a civic-resources account in which conventional participation is facilitated by the time, security, and institutional familiarity that accumulates over the life course, whereas the comparative youthfulness of radical orientation aligns with panel evidence, identifying youth as among the strongest correlates of non-normative climate intentions (Hornsey et al., 2026). The concentration of confidence in fake news among men and the less educated, together with its overlap with the demographic base of radical (not moderate) activism, provide an early indication that susceptibility to misinformation and a confrontational orientation share common social roots. Multivariate analysis directly examines this convergence.

Table 4
ANOVA/t-test results by socio-demographic group.

Variables	Category	Moderate activism		Radical activism		Confidence in fake news	
		Mean	F/T	Mean	F/T	Mean	F/T
Gender	Male	3.209	-1.555	2.739	.657	2.170	2.500*
	Female	3.263		2.711		2.103	
Education	High school and below	3.173	-1.932	2.828	2.664**	2.203	2.642**
	College and above	3.254		2.696		2.118	
Age	20s	3.114	5.276***	2.779	7.072***	2.115	7.333***
	30s	3.144		2.885		2.215	
	40s	3.256		2.759		2.205	
	50s	3.348		2.787		2.190	
	Above 60	3.260		2.572		2.044	
Income	Low (under 299)	3.102	12.757***	2.680	4.781**	2.142	1.732
	Middle (300–499)	3.179		2.627		2.092	
	High (above 500)	3.312		2.777		2.149	

Note. ***p < .001, **p < .01, *p < .05.

5.3 Correlation Analysis

Table 5 presents Pearson's correlation matrix. Moderate and radical activism were moderately and positively correlated ($r = .551$, $p < .01$), confirming that they were related yet distinct constructs. Moderate activism was most strongly correlated with the psychometric variables, perceived benefit ($r = .500$), perceived risk ($r = .493$), trust ($r = .460$), and environmentalism ($r = .398$), echoing the risk-perception account of

constructive engagement (Slovic, 1987). By contrast, radical activism correlates most strongly with confidence in fake news (r = .588), knowledge (r = .503), and social ecology (r = .464), foreshadowing a distinct motivational profile in which misinformation susceptibility and system-critical worldviews loom large. Notably, confidence in fake news correlates positively with radical activism but only weakly with several value variables, and even negatively with deep ecology (r = −.055), indicating that it is not a straightforward proxy for environmental concern.

The contrast in the correlation structures offers preliminary support for the theoretical separation of the two forms. Moderate activism's strongest associates, namely trust, perceived benefit, and perceived risk—are constructs that the psychometric paradigm identifies as the engines of legitimate, problem-focused responses. By contrast, radical activism's strongest associates are confidence in fake news, self-assessed knowledge, and social ecology, all markers of a distrustful, system-critical epistemic stance rather than a conventional concern (Slovic, 1987; van Zomeren et al., 2008). The near-zero and even negative correlations between confidence in fake news and affirmative value orientations are particularly telling; they indicate that the acceptance of false climate claims does not involve deeper environmental commitment but a counter-consensus orientation, exactly the configuration that comparative research links to non-normative engagement (Hornsey et al., 2026). These bivariate patterns motivate multivariate models that isolate each antecedent's unique contribution while holding the others constant.

Table 5
Pearson correlation matrix.

1. Moderate activism	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
	1												
2. Radical activism	.551**	1											
3. Environmentalism	.398**	.199**	1										
4. Ideology (progressive)	.189**	.102**	.095**	1									
5. Deep ecology	.282**	0.026	.364**	.089**	1								
6. Eco-socialism	.298**	.351**	.219**	.139**	.089**	1							
7. Social ecology	.264**	.464**	.230**	0.011	0.011	.448**	1						
8. Perceived risk	.493**	.212**	.442**	.100**	.362**	.243**	.153**	1					
9. Perceived benefit	.500**	.321**	.397**	.074**	.287**	.228**	.232**	.617**	1				
10. Trust	.460**	.080**	.279**	.114**	.255**	.107**	0.022	.412**	.360**	1			
11. Knowledge	.370**	.503**	.250**	0.033	.054*	.198**	.327**	.329**	.413**	.154**	1		
12. Negative emotion	.387**	.239**	.234**	.069**	.168**	.207**	.147**	.420**	.350**	.232**	.196**	1	
13. Confidence in fake news	.246**	.588**	.079**	-0.013	− .055*	.235**	.370**	.047*	.179**	-0.01	.409**	.108**	1

Note. **p < .01, *p < .05.

5.4 Direct-Effects Regression

Table 6 reports the OLS estimates for the direct effects on each activism type. The models explain a substantial share of variance (adjusted R^2 = .441 for moderate and.494 for radical activism), and the Durbin-Watson statistics (2.035 and 2.069) indicate no serial-correlation concerns. For moderate activism, every value and psychometric antecedent is positive and significant: environmentalism (β = .101), ideology (β = .103), deep ecology (β = .062), eco-socialism (β = .084), social ecology (β = .070), perceived risk (β = .101), perceived benefit (β = .132), trust (β = .241), knowledge (β = .082), and negative emotion (β = .140). Trust is the strongest single driver, a result that sits squarely within the psychometric paradigm: because moderate engagement is channelled through legitimate organisations, confidence in the credibility of climate information is precisely what converts concern into lawful participation (Slovic, 1987). The uniformly positive coefficients confirm the directional component of every antecedent hypothesis (H3–H12) for the moderate form and indicate that conventional engagement rests on a broad, affirmative coalition of values and risk appraisals rather than on any single grievance.

For radical activism, the pattern is markedly different, and this contrast is at the analytic heart of this study. Several antecedents that drive moderate engagement—environmentalism (β = .009), deep ecology (β = −.011), perceived risk (β = −.013), and trust (β = −.017)—lose

significance entirely. In contrast, the strongest predictors become confidence in fake news (β = .390), knowledge (β = .216), and social ecology (β = .182), with ideology (β = .070), eco-socialism (β = .094), perceived benefit (β = .066), and negative emotion (β = .084) also emerging as positive and significant. Reading these coefficients against the hypothesised asymmetries yields a mixed, albeit theoretically coherent, verdict. The system-critical worldview hypotheses are clearly supported: eco-socialism (H6) and social ecology (H7) are comparatively stronger for radical activism, as is confidence in fake news (H13), matching the view that a system-blame diagnosis and distrustful epistemic posture underwrite confrontation (van Zomeren et al., 2008; Hornsey et al., 2026). Likewise, the psychometric-pathway hypotheses are supported: perceived risk (H8), perceived benefit (H9), and trust (H10) are stronger for, and largely confined to, the moderate form, in line with their constructive, institutionally channelled logic.

However, three of the hypothesised asymmetries contradict the data and are therefore not supported. Environmentalism (H3) and deep ecology (H5), predicted to be comparatively stronger for radical activism, are in fact significant only for the moderate form, indicating that an affirmative bond with nature flows into lawful rather than confrontational participation. This sits closer to the classic value-belief-norm expectation than to the system-blame reading anticipated here (Stern, 2000). Knowledge (H11), predicted to be stronger for moderate activism, is instead far stronger for the radical form (β = .216 versus.082), suggesting that confident self-assessed expertise underwrites an assertive willingness to challenge institutions rather than the calibrated, lawful engagement that the hypothesis envisaged. This reversal converges with qualitative evidence that radical climate activists are frequently well-informed about policy and technical details, rather than ignorant, with a commitment to system change positively correlated with policy knowledge (Corry & Reiner, 2021). Negative emotion (H12), predicted to be stronger for radical activism, is in fact stronger for the moderate form (β = .140 versus.084), implying that climate-related affect is channelled more into constructive participation than into confrontation in this sample. This also aligns with experimental findings that discrete emotions mobilising constructive participation operate partly independently of anger, the affect most closely tied to confrontation (Feldman & Hart, 2015). These reversals are substantively informative: they reveal that affirmative values and affect promote lawful engagement, whereas assertive knowledge and counter-consensus beliefs foster confrontation. This configuration sharpens, although it partly contradicts, the study's prior expectations.

Thus, the role of confidence in fake news deserves further emphasis. It is positive and significant for both forms, and its standardised coefficient for radical activism (β = .390) is more than three times its coefficient for moderate activism (β = .125) and the single largest effect in either model, strongly supporting H13. Acceptance of demonstrably false climate claims is the dominant predictor of willingness to break the law, which is a striking and somewhat counterintuitive result. This finding suggests that susceptibility to misinformation is not merely a brake on accurate engagement but, for a confrontational minority, an accelerant. A distrustful epistemic posture that discounts mainstream institutions appears to be precisely the orientation that licenses transgressive action. This reframing is notable, as experimental studies have found that the direct persuasive effect of exposure to fake climate news on belief is modest relative to ideology (Drummond et al., 2020). The present results suggest that the behavioural significance of misinformation susceptibility may lie less in changing what people believe about the climate than in indexing the distrustful, counter-consensus orientation that channels engagement towards its confrontational form. This susceptibility tracks a deficit in reflective reasoning and consensus acceptance, rather than environmental concern as such (Pennycook & Rand, 2021), which helps explain why it predicts radical far more than moderate engagement. This finding extends the misinformation literature, which emphasises how false beliefs depress mitigation support by showing that the same susceptibility can be bound with intensified, rather than diminished, engagement once the form of engagement turns radical (van der Linden, 2017).

Stepping back from the individual coefficients to a paradigm-level comparison (H1 and H2), the overall configuration supports the proposition that the two families of antecedents map the two forms of activism differently. For radical activism, the largest substantive effects belong to the value and system-critical family—social ecology (β = .182), eco-socialism (β = .094), and ideology (β = .070)—together with confidence in fake news, whereas the core psychometric appraisal constructs of perceived risk and trust are statistically non-significant. This pattern supports H1, which predicted that value variables would weigh more heavily on confrontational engagement. For moderate activism, by contrast, the psychometric constructs dominate, with trust (β = .241) and perceived benefit (β = .132) the two strongest predictors, while perceived risk remains significant. This aligns with H2's assertion that an appraisal-based pathway drives lawful participation. The comparison is not entirely straightforward, as knowledge, a psychometric construct, is strongly tied to radical activism, and the value constructs are also significant for moderate activism. Nonetheless, the centre of gravity for each family aligns with the anticipated paradigm-level hypotheses: values lean towards radicalism, while appraisals lean towards moderate engagement. This lends empirical weight to the theoretical claim that contesting the legitimacy of the existing order and managing risk within it are governed by distinct motivational logics (Slovic, 1987; van Zomeren et al., 2008).

Table 6
Regression results for moderate and radical climate activism (direct effects).

Variable	Model 1: Moderate			Model 2: Radical		
	B	**S.E**	**Beta**	**B**	**S.E**	**Beta**
(Constant)	-1.049***	0.163	–	-1.151***	0.196	–
Socio-demographic factors						
College and above	0.066*	0.034	0.036	-0.111**	0.041	-0.048
Income	0.033	0.020	0.031	0.036	0.024	0.026
Gender (female)	0.015	0.027	0.010	0.023	0.032	0.012
Age (30s)	-0.021	0.049	-0.010	-0.004	0.059	-0.001
Age (40s)	0.077	0.047	0.038	-0.074	0.057	-0.029
Age (50s)	0.109*	0.046	0.058	-0.069	0.055	-0.029
Age (60s)	0.068	0.043	0.043	-0.108*	0.051	-0.054
Value variables						
Environmentalism	0.103***	0.021	0.101	0.012	0.025	0.009
Ideology (progressive)	0.066***	0.012	0.103	0.057***	0.014	0.070
Deep ecology	0.068**	0.022	0.062	-0.015	0.026	-0.011
Eco-socialism	0.081***	0.019	0.084	0.115***	0.023	0.094
Social ecology	0.064***	0.019	0.070	0.209***	0.023	0.182
Risk perception						
Perceived risk	0.107***	0.026	0.101	-0.018	0.031	-0.013
Perceived benefit	0.132***	0.023	0.132	0.084**	0.028	0.066
Trust	0.233***	0.019	0.241	-0.021	0.023	-0.017
Knowledge	0.075***	0.019	0.082	0.251***	0.023	0.216
Negative emotion	0.092***	0.013	0.140	0.070***	0.015	0.084
Confidence in fake news	0.163***	0.026	0.125	0.647***	0.032	0.390
F-value	82.049***			101.425***		
R^2 / adjusted R^2	0.447 / 0.441			0.499 / 0.494		
Durbin-Watson	2.035			2.069		
Note. N = 1,849. All VIF values < 2.4. ***p < .001, **p < .01, *p < .05.						

5.5 Moderation Analysis

To test whether confidence in fake news amplifies the influence of the antecedents (H14), interaction terms between the moderator and each antecedent were added to the models (Table 7). The interaction terms improved the fit modestly (adjusted R^2 rises to.445 for moderate and.503 for radical activism). These four interactions were significant (see Appendix). For moderate activism, perceived benefit × confidence in fake news is positive and significant (β = .054), indicating that the mobilising effect of perceived benefit strengthens as confidence in fake news rises; the negative emotion × confidence interaction is significant but negative (β = –.038). For radical activism, the ideology × confidence interaction is negative (β = –.038), and the trust × confidence interaction is positive (β = .056). Moderation operates selectively, reinforcing some pathways, attenuating others, and reversing others rather than uniformly amplifying every antecedent. This is in itself a substantive finding and requires reading H14 not as a blanket claim but as a hypothesis whose support is conditional on the type of antecedent and the form of activism.

Table 7
Ordinary least squares (OLS) regression with confidence-in-fake-news interaction terms.

Variable	Model 1: Moderate			Model 2: Radical		
	B	S.E	Beta	B	S.E	Beta
(Constant)	3.252***	0.015	–	2.746***	0.017	–
Socio-demographic factors						
College and above	0.063	0.034	0.034	-0.106**	0.04	-0.045
Income	0.034	0.02	0.031	0.032	0.023	0.024
Gender (female)	0.014	0.027	0.009	0.016	0.032	0.009
Age (30s)	-0.02	0.049	-0.009	0.006	0.058	0.002
Age (40s)	0.071	0.047	0.035	-0.061	0.057	-0.024
Age (50s)	0.101*	0.046	0.053	-0.063	0.055	-0.026
Age (60s)	0.064	0.043	0.04	-0.107*	0.051	-0.053
Value variables						
Environmentalism	0.096***	0.021	0.094	0.011	0.025	0.009
Ideology (progressive)	0.068***	0.012	0.105	0.058***	0.014	0.071
Deep ecology	0.069**	0.022	0.063	-0.014	0.026	-0.01
Eco-socialism	0.078***	0.02	0.081	0.104***	0.024	0.085
Social ecology	0.068***	0.019	0.075	0.206***	0.023	0.179
Risk perception						
Perceived risk	0.093***	0.026	0.088	-0.006	0.032	-0.005
Perceived benefit	0.141***	0.024	0.14	0.101***	0.029	0.08
Trust	0.232***	0.019	0.24	-0.002	0.023	-0.002
Knowledge	0.076***	0.02	0.083	0.239***	0.024	0.206
Negative emotion	0.092***	0.013	0.14	0.072***	0.015	0.087
Confidence in fake news	0.167***	0.028	0.128	0.661***	0.033	0.398
Interaction terms (× Confidence in fake news)						
Nature	-0.064	0.036	-0.036	-0.027	0.043	-0.012
Ideology	-0.031	0.018	-0.028	-0.054*	0.022	-0.038
Deep ecology	-0.047	0.037	-0.025	-0.003	0.044	-0.001
Eco-socialism	0.009	0.033	0.005	-0.066	0.039	-0.031
Social ecology	0.024	0.032	0.015	-0.061	0.038	-0.03
Perceived risk	-0.027	0.047	-0.014	0.08	0.057	0.034
Perceived benefit	0.094*	0.044	0.054	0.097	0.053	0.044
Trust	-0.021	0.033	-0.013	0.119**	0.04	0.056
Knowledge	0.013	0.032	0.008	-0.074	0.039	-0.037
Negative emotion	-0.043*	0.019	-0.038	-0.023	0.023	-0.016
F-value	53.800***			67.700***		
R^2 / adjusted R^2	0.453 / 0.445			0.510 / 0.503		

Note. N = 1,849. ***p < .001, **p < .01, *p < .05.

Significant interactions were probed with simple-slope tests at low, middle, and high levels of confidence in fake news; the patterns are displayed in Figs. 4 through 7. For perceived benefit and moderate activism (Fig. 4), the positive slope steepens monotonically as confidence in fake news increases, from B = 0.087 ($p < .01$) at the low level to 0.141 ($p < .001$) in the middle and to 0.195 ($p < .001$) at the high level. This directly supports the amplification logic of H14: the gain in moderate activism associated with perceived benefit is the largest among those most confident in fake news. A plausible interpretation is that, for individuals already inclined to credit non-veridical claims, the promise of economic gain from climate action functions as an especially compelling motivational cue, unconstrained by the scepticism that more calibrated information processors might apply. In psychometric terms, the cognitive-evaluative appraisal of benefits is reinforced rather than diluted when filtered through a credulous epistemic lens (Slovic, 1987).

For negative emotions and moderate activism (Fig. 5), the simple slopes are positive at every level of the moderator; however, they flatten as confidence in fake news rises, from B = 0.117 ($p < .001$) at the low level to B = 0.067 ($p < .001$) at the high level, indicating that confidence in fake news dampens rather than amplifies the affective pathway. This qualifies H14: amplification is not universal but depends on the nature of the antecedent, with cognitive-evaluative drivers (perceived benefit) reinforced and affective drivers (negative emotion) attenuated under high misinformation susceptibility.

For ideology and radical activism (Fig. 6), the positive effect of progressive ideology weakens as confidence in fake news rises, from B = 0.089 ($p < .001$) at the low level to a non-significant 0.027 at the high level. This occurs because radical activism is already elevated among those high in confidence in fake news, regardless of ideology, thereby compressing the ideological gradient at the upper end of the moderator. In other words, when misinformation susceptibility is high, it substitutes for ideology as a route to confrontation, ensuring that the ideological signal that ordinarily differentiates radical sympathisers loses its discriminatory power. For trust and radical activism (Fig. 7), the slope reverses across levels of the moderator: trust is negatively associated with radical activism when confidence in fake news is low (B = − 0.071, $p < .05$), but positively associated when it is high (B = 0.066, $p < .05$). This crossover is theoretically significant. Among individuals with low misinformation, trust behaves as the psychometric paradigm predicts, as confidence in mainstream sources dampens the impulse towards lawbreaking. Among high-misinformation individuals, however, the same survey-measured 'trust' appears to attach to non-mainstream or counter-consensus sources, ensuring that what is nominally trust becomes a conduit to, rather than a brake on, confrontation. Thus, the interaction shows that confidence in fake news can invert the meaning of an antecedent, a pattern that conventional main-effect models conceal entirely (van der Linden, 2017; van Zomeren et al., 2008).

6. Summary and Discussion

This study aimed to identify the antecedents of two qualitatively different forms of climate activism and assess whether confidence in fake news conditions these relationships. Four findings merit emphasis. First, moderate and radical activism are driven by overlapping, albeit substantially different sets of factors. Moderate engagement is broadly prosocial and risk-perception-based; it is supported by every value and psychometric antecedent, with trust, perceived benefit, and negative emotions as the strongest drivers. This pattern aligns with the value-belief-norm and psychometric accounts of constructive participation, in which an affirmative valuation of nature, credible information, and motivating affect combine to activate lawful action through legitimate channels (Stern, 2000; Slovic, 1987). The breadth of the significant positive effects suggests that moderate activism rests on a wide and inclusive coalition rather than on any single ideological driver.

Second, radical activism follows a markedly different logic. Trust, perceived risk, environmentalism, and deep ecology—the cornerstones of moderate engagement—do not significantly predict it. Instead, confrontational engagement is propelled by confidence in fake news, self-assessed knowledge, and system-critical worldviews (social ecology, eco-socialism, and progressive ideology). This profile aligns with collective action models that tie non-normative participation to perceived institutional illegitimacy and a system-blaming appraisal rather than to generalised environmental concern, and it converges with comparative panel evidence indicating that the established predictors of conventional engagement travel poorly to radical intentions (van Zomeren et al., 2008; Hornsey et al., 2026). The qualitative divergence in drivers—affirmative and trust-based for moderate engagement, and grievance-based and distrustful for radical engagement—vindicates the decision to model the two forms separately.

Third, the study's most surprising result is the prominence of confidence in fake news as the single strongest predictor of radical activism. The acceptance of demonstrably false climate claims outweighs every value and risk-perception variable in explaining willingness to break the law, suggesting that for a confrontational minority, susceptibility to misinformation is not a brake on engagement but an accelerant. A distrustful epistemic posture that discounts mainstream institutions appears to provide both grievance and permission structures for transgressive action. This extends the misinformation literature, which has chiefly documented how false beliefs depress mitigation support, by demonstrating that the same susceptibility can coexist with, and even intensify, a particularly assertive form of climate engagement (van der Linden, 2017).

Fourth, confidence in fake news does not condition the antecedents uniformly, which refines, rather than simply confirms, H14. It amplifies the cognitive-evaluative pathway, ensuring that the effect of perceived benefit on moderate activism grows stronger as misinformation susceptibility increases, while it attenuates the affective pathway by flattening the effects of negative emotions. For radical activism, it compresses the ideological gradient and even reverses the sign of trust. The picture that emerges is one of misinformation susceptibility as an epistemic lens that reorganises how values and perceptions translate into action: it can intensify evaluative routes to engagement, mute affective ones, and invert trust-based routes. This selective, sometimes sign-reversing moderation is theoretically richer than a simple amplification story and underscores that the influence of an antecedent cannot be read from its main effect alone.

Regarding the hypotheses, the two paradigm-level predictions were broadly supported: value variables carried the largest effects on radical activism (H1), whereas psychometric appraisal constructs dominated moderate activism (H2), confirming that contesting and managing climate risk rest on distinct motivational logics. At the variable level, the directional predictions for the moderate form were uniformly supported, as every antecedent contributed positively to moderate activism (H3–H12). The hypothesised asymmetries received mixed support. Five were confirmed: the system-critical worldviews of eco-socialism (H6) and social ecology (H7) and the misinformation construct of confidence in fake news (H13) were comparatively stronger for radical activism, while the psychometric constructs of perceived risk (H8), perceived benefit (H9), and trust (H10) were stronger for moderate activism. However, three asymmetries ran contrary to prediction: environmentalism (H3) and deep ecology (H5), expected to favour radical activism, were significant only for the moderate form; negative emotion (H12), expected to favour radical activism, was stronger for the moderate form; and knowledge (H11), expected to favour moderate activism, was in fact considerably stronger for the radical form. These reversals indicate that affirmative nature-based values and climate affect feed lawful engagement, whereas confident self-assessed expertise feed confrontation. This finding refines the study's priors rather than simply confirming them. The general moderation hypothesis (H14) received partial and conditional support: amplification held clearly for perceived benefit on moderate activism, whereas negative emotion, ideology, and trust interactions revealed attenuation, compression, or reversal, indicating that the moderating role of confidence in fake news is contingent on the type of antecedent and the form of activism rather than being uniform.

7. Implications and Conclusion

Theoretically, this study advances environmental mobilisation research in several directions. First, it demonstrates the analytical payoff of decomposing climate activism into moderate and radical forms. The two are not points on a single continuum but distinct outcomes with partly opposed drivers: an antecedent that powerfully promotes lawful engagement, such as trust, can be irrelevant to, or even inversely associated with, confrontational engagement. Models that collapse activism into a single index risk averaging away precisely the contrasts that are most theoretically informative, and the present results argue for routinely distinguishing normative from non-normative engagement in climate-behaviour research.

Second, the study posited that confidence in fake news is more than a depressant of accurate risk appraisal. By demonstrating that it is the dominant predictor of radical activism and a significant predictor of moderate activism, the analysis reframes misinformation susceptibility as an active ingredient in mobilisation rather than merely an obstacle to it. This complicates the prevailing deficit narrative, in which correcting false beliefs is expected to unlock constructive engagement; for a confrontational minority, the relationship between false beliefs and engagement runs in the opposite direction. This result invites the integration of the misinformation literature with collective-action theory, as the distrust and counter-consensus orientation captured by misinformation susceptibility indices overlap conceptually with the system-blame appraisals that drive non-normative action (van Zomeren et al., 2008; van der Linden, 2017).

Third, and most distinctively, this study establishes confidence in fake news as a moderator that restructures established pathways rather than uniformly strengthening or weakening them. The finding that it amplifies an evaluative antecedent (perceived benefit), attenuates an affective one (negative emotion), and reverses a trust-based one (trust in radical activism) suggests a more general proposition: the epistemic context in which an antecedent is processed can change not only the magnitude but also the direction of its behavioural effect. This positions epistemic disposition alongside identity, efficacy, and emotion as a higher-order conditioner of how the antecedents of collective action operate, and it offers a template for incorporating the contemporary information environment into theories that were largely developed before the salience of organised misinformation.

Practically, the findings caution against treating all climate engagements as equivalent and against assuming that the same levers move in both forms. Strategies that build trust and emphasise the tangible benefits of action are well suited to broadening lawful participation, and the moderation results suggest that benefit-based appeals retain, and indeed gain, traction even among citizens who are more susceptible to misinformation. Therefore, for organisations seeking to expand their moderate base, emphasising the concrete co-benefits of climate action may be unusually robust across audiences.

By contrast, confrontational mobilisation is bound by distrust and acceptance of counter-consensus claims, which implies that efforts to understand or engage with the radical flank cannot rely on conventional concern-based messaging. The episodes surrounding groups such as Extinction Rebellion and Just Stop Oil illustrate the stakes: disruptive tactics generate intense attention as well as backlash. The demographic and epistemic profile uncovered here suggests that the willingness to support such tactics is rooted in grievances and beliefs that mainstream

climate communication does not address and may even inflame. As confidence in fake news predicts radical activism and reshapes the influence of trust and ideology, interventions that improve information quality and rebuild institutional credibility may be as consequential to the character of climate engagement as appeals to concern. The misinformation literature points to concrete levers here: pre-emptive 'inoculation' and the cultivation of analytic reasoning have shown more promise than after-the-fact correction in limiting the spread and influence of false climate claims (Treen et al., 2020; Pennycook & Rand, 2021). Meanwhile, for movement strategists, radical-flank evidence suggests that moderate organisations seeking to broaden lawful participation may benefit from visibly distinguishing their tactics from those of disruptive groups, as public support for a moderate centre rises when it distances itself from, rather than endorses, a radical flank (Köhler et al., 2026). Simultaneously, policymakers should be wary of treating misinformation susceptibility as a simple marker of disengagement because among the confrontational minority, it coexists with intense, if institutionally distrustful, motivation.

This study has several limitations that qualify these conclusions. The cross-sectional design precludes causal inference; the relationships estimated here are associational, and longitudinal or experimental work is required to establish temporal order, particularly for the link between misinformation susceptibility and radical engagement, where reverse and reciprocal causation are plausible. Self-reported measures may be subject to social desirability bias, which could be especially acute for items endorsing illegal action, and the single-country sample limits generalisability across political and media systems with different misinformation ecologies. Moreover, the trust measure did not distinguish between trust in mainstream and trust in alternative sources, an ambiguity that the trust-by-misinformation reversal is directly salient and that future instruments should resolve.

These limitations highlight a clear research agenda. Comparative designs can test whether the conditioning role of confidence in fake news varies across information environments, for instance, between contexts with more and less polarised media. Experimental work could manipulate exposure to false versus corrected climate claims to assess whether misinformation susceptibility causally elevates confrontational intentions or merely co-occurs with them. Source-specified trust measures, together with constructs such as political efficacy, collective victimhood, and group identity, would allow for a fuller adjudication of why the drivers of radical engagement diverge from those of moderate engagement (Hornsey et al., 2026). Finally, mediation analyses could clarify the mechanisms by which evaluative, affective, and trust-based antecedents are differentially reshaped by misinformation susceptibility.

In sum, the willingness to act on climate change turns on more than value and risk. It also turns on what citizens are prepared to believe. Moderate and radical activism rest on distinct foundations. The moderate form draws on an affirmative, trust-based coalition of values and risk appraisals; the radical form draws on grievance, system-blame, and a distrustful epistemic posture. Confidence in fake news is the pivot. It works both as a direct spur to engagement, above all of the radical kind, and as a lens that bends the established drivers of action in ways conventional theories would not predict. The practical lesson is narrow but pressing. To understand climate mobilisation amid pervasive misinformation, researchers must weigh not only whether public beliefs are accurate but how their inaccuracy becomes woven into the motivation to act.

Declarations

Ethics statement

This study was exempt from institutional ethical review in accordance with Article 2, Paragraph 1 of the Bioethics and Safety Act of the Republic of Korea (Act No. 13467)[1]. All research was performed in accordance with the relevant guidelines and regulations, including the Declaration of Helsinki and the Bioethics and Safety Act of the Republic of Korea. As the study involved an anonymous, non-interventional online survey of adult respondents and collected no identifiable personal information, it qualified for exemption from review by an Institutional Review Board under the provisions cited above. Participation was voluntary, and informed consent was obtained electronically from all participants prior to their completion of the survey, in which they were informed of the study's purpose, the anonymity and confidentiality of their responses, and their right to withdraw at any time without penalty.

[1] https://elaw.klri.re.kr/eng_mobile/viewer.do?hseq=33442&key=36&type=part

Author Contribution

I. K: Conceptualization, Data Curation, Formal Analysis, Writing-Review & EditingS. K.: Funding Acquisition, Project Administration, Resource, Supervision, Writing-Original DraftY. S.: Software, Investigation, Methodology, Validation, Writing-Original DraftAll authors reviewed the manuscript.

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Data availability

Data will be made available upon reasonable request.

References

1. Bamberg S, Rees JH, Schulte M (2018) Environmental protection through societal change: What psychology knows about collective climate action — and what it needs to find out. In S. Clayton & C. Manning (Eds.), Psychology and climate change (pp. 185–213). Academic Press. https://doi.org/10.1016/B978-0-12-813130-5.00008-4
2. Bastick Z (2021) Would you notice if fake news changed your behavior? An experiment on the unconscious effects of disinformation. Comput Hum Behav 116:106633. https://doi.org/10.1016/j.chb.2020.106633
3. Berglund O, Schmidt D (2020) Extinction Rebellion and climate change activism: Breaking the law to change the world. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-48359-3
4. Bookchin M (1982) The ecology of freedom: The emergence and dissolution of hierarchy. Cheshire Books
5. Cantarella M, Fraccaroli N, Volpe R (2023) Does fake news affect voting behaviour? Res Policy 52(1):104628. https://doi.org/10.1016/j.respol.2022.104628
6. Corry O, Reiner D (2021) Protests and policies: How radical social movement activists engage with climate policy dilemmas. Sociology 55(1):197–217. https://doi.org/10.1177/0038038520943107
7. Davies-Rommetveit S, Douch J, Gardner P, Sach AA, Thomas-Walters L, Tausch N (2026) Emotional responses to state repression predict collective climate action intentions. Nat Clim Change 16(3):281–287. https://doi.org/10.1038/s41558-026-02570-8
8. Drummond C, Siegrist M, Árvai J (2020) Limited effects of exposure to fake news about climate change. Environ Res Commun 2(8):081003. https://doi.org/10.1088/2515-7620/abae77
9. Feldman L, Hart PS (2015) Using political efficacy messages to increase climate activism: The mediating role of emotions. Sci Communication 38(1):99–127. https://doi.org/10.1177/1075547015617941
10. Fisher DR, Nasrin S (2021) Climate activism and its effects. WIREs Clim Change 12(1):e683. https://doi.org/10.1002/wcc.683
11. Freelon D, Marwick A, Kreiss D (2020) False equivalencies: Online activism from left to right. Science 369(6508):1197–1201. https://doi.org/10.1126/science.abb2428
12. Furlong C, Vignoles VL (2021) Social identification in collective climate activism: Predicting participation in the environmental movement. Extinction Rebellion Identity 21(1):20–35. https://doi.org/10.1080/15283488.2020.1856664
13. Gousse-Lessard A-S, Vallerand RJ, Carbonneau N, Lafrenière M-AK (2013) The role of passion in mainstream and radical behaviors: A look at environmental activism. J Environ Psychol 35:18–29. https://doi.org/10.1016/j.jenvp.2013.03.003
14. Hornsey MJ, Pearson S, Wibisono S, Thomas EF, Bird LH, Nylund JL, Bretter C, Acevedo JD, Fielding KS, Amiot CE, Moghaddam FM, Louis WR (2026) Youth, personality and collective victimhood distinguish support for radical climate action. Commun Psychol 4(1):54. https://doi.org/10.1038/s44271-026-00420-z
15. IPCC (2022) In: Pörtner DC, Roberts M, Tignor ES, Poloczanska K, Mintenbeck A, Alegría M, Craig S, Langsdorf S, Löschke V, Möller A, Okem, Rama B (eds) Climate change 2022: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (H.-O. Cambridge University Press. https://doi.org/10.1017/9781009325844
16. IPCC (2023) Climate change 2023: Synthesis report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC. https://doi.org/10.59327/IPCC/AR6-9789291691647
17. Kakenmaster W (2019) Articulating resistance: Agonism, radical democracy and climate change activism. Millennium: Journal of International Studies, 47(3), 373–397. https://doi.org/10.1177/0305829819839862
18. Kirsop-Taylor N, Russel D, Jensen A (2023) A typology of the climate activist. Humanit Social Sci Commun 10:896. https://doi.org/10.1057/s41599-023-02398-z
19. Köhler JK, Fian L, White MP, Nijssen SRR, Pahl S (2026) Actively distancing from climate radicals improves public support for moderate climate activists. Commun Psychol 4:55. https://doi.org/10.1038/s44271-026-00412-z
20. Lazer DMJ, Baum MA, Benkler Y, Berinsky AJ, Greenhill KM, Menczer F, Metzger MJ, Nyhan B, Pennycook G, Rothschild D, Schudson M, Sloman SA, Sunstein CR, Thorson EA, Watts DJ, Zittrain JL (2018) The science of fake news. Science 359(6380):1094–1096. https://doi.org/10.1126/science.aao2998

21. McAdam D (2017) Social movement theory and the prospects for climate change activism in the United States. Annu Rev Polit Sci 20:189–208. https://doi.org/10.1146/annurev-polisci-052615-025801
22. McCright AM, Dunlap RE (2011) The politicization of climate change and polarization in the American public's views of global warming, 2001–2010. Sociol Q 52(2):155–194. https://doi.org/10.1111/j.1533-8525.2011.01198.x
23. Moskalenko S, McCauley C (2009) Measuring political mobilization: The distinction between activism and radicalism. Terrorism Political Violence 21(2):239–260. https://doi.org/10.1080/09546550902765508
24. Ostarek M, Simpson B, Rogers J, Ozden J (2024) Radical climate protests linked to increases in public support for moderate organizations. Nat Sustain 7:1626–1631. https://doi.org/10.1038/s41893-024-01444-1
25. Naess A (1973) The shallow and the deep, long-range ecology movement: A summary. Inquiry 16(1–4):95–100. https://doi.org/10.1080/00201747308601682
26. Pennycook G, Rand DG (2021) The psychology of fake news. Trends Cogn Sci 25(5):388–402. https://doi.org/10.1016/j.tics.2021.02.007
27. Reitan R, Gibson S (2012) Climate change or social change? Environmental and leftist praxis and participatory action research. Globalizations 9(3):395–410. https://doi.org/10.1080/14747731.2012.680735
28. Ritchie J (2021) Movement from the margins to global recognition: Climate change activism by young people and in particular indigenous youth. Int Stud Sociol Educ 30(1–2):53–72. https://doi.org/10.1080/09620214.2020.1854830
29. Russell B (2015) Beyond activism/academia: Militant research and the radical climate and climate justice movement(s). Area 47(3):222–229. https://doi.org/10.1111/area.12086
30. Schmitt MT, Mackay CML, Droogendyk LM, Payne D (2019) What predicts environmental activism? The roles of identification with nature and politicized environmental identity. J Environ Psychol 61:20–29. https://doi.org/10.1016/j.jenvp.2018.11.003
31. Shuman E, Hasan-Aslih S, van Zomeren M, Saguy T, Halperin E (2022) Protest movements involving limited violence can sometimes be effective: Evidence from the 2020 BlackLivesMatter protests, Proc. Natl. Acad. Sci. U.S.A. 119 (14) e2118990119. https://doi.org/10.1073/pnas.2118990119
32. Simpson B, Willer R, Feinberg M (2022) Radical flanks of social movements can increase support for moderate factions. PNAS Nexus 1(3):pgac110. https://doi.org/10.1093/pnasnexus/pgac110
33. Slovic P (1987) Perception of risk. Science 236(4799):280–285. https://doi.org/10.1126/science.3563507
34. Stern PC (2000) Toward a coherent theory of environmentally significant behavior. J Soc Issues 56(3):407–424. https://doi.org/10.1111/0022-4537.00175
35. Tandoc EC Jr. (2019) The facts of fake news: A research review. Sociol Compass 13(9):e12724. https://doi.org/10.1111/soc4.12724
36. Treen KMd, Grant HTP, Nash D (2020) Online misinformation about climate change. WIREs Clim Change 11(5):e665. https://doi.org/10.1002/wcc.665
37. van der Linden S (2017) Determinants and measurement of climate change risk perception, worry, and concern. In: Nisbet MC (ed) The Oxford Encyclopedia of Climate Change Communication. Oxford University Press. https://doi.org/10.1093/acrefore/9780190228620.013.318
38. van Zomeren M, Postmes T, Spears R (2008) Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. Psychol Bull 134(4):504–535. https://doi.org/10.1037/0033-2909.134.4.504

Figures

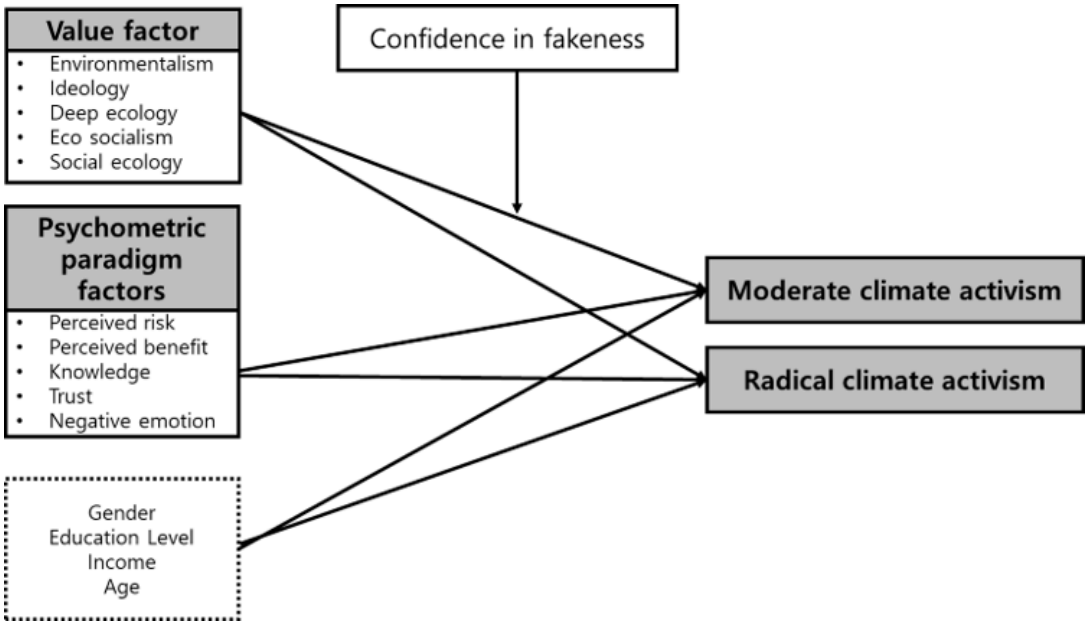


Figure 1

Research model.

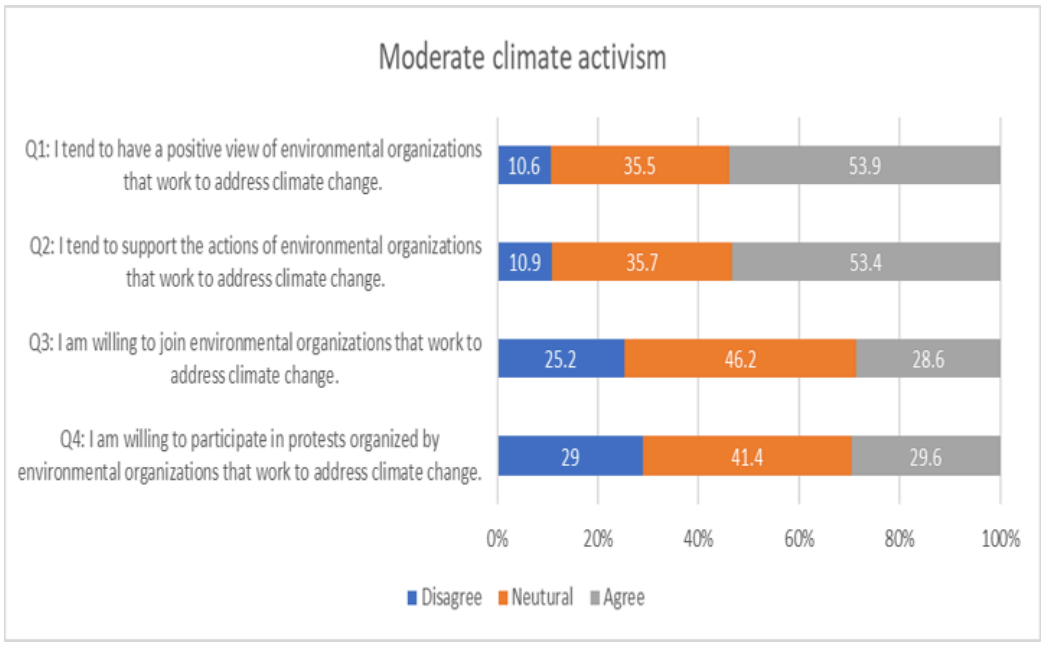


Figure 2

Frequency analysis – Moderate climate activism.

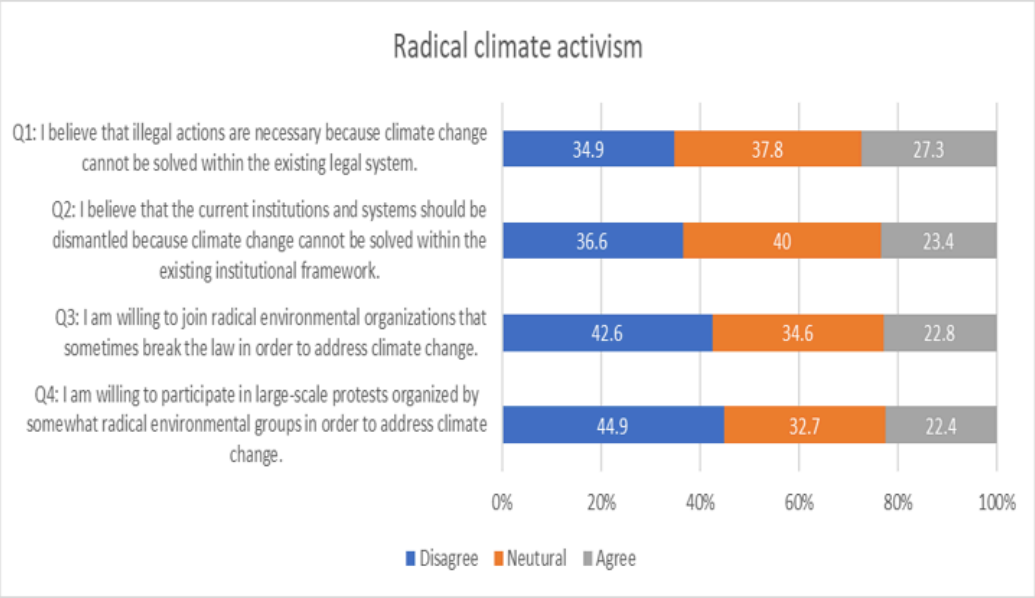


Figure 3

Frequency analysis – Radical climate activism.

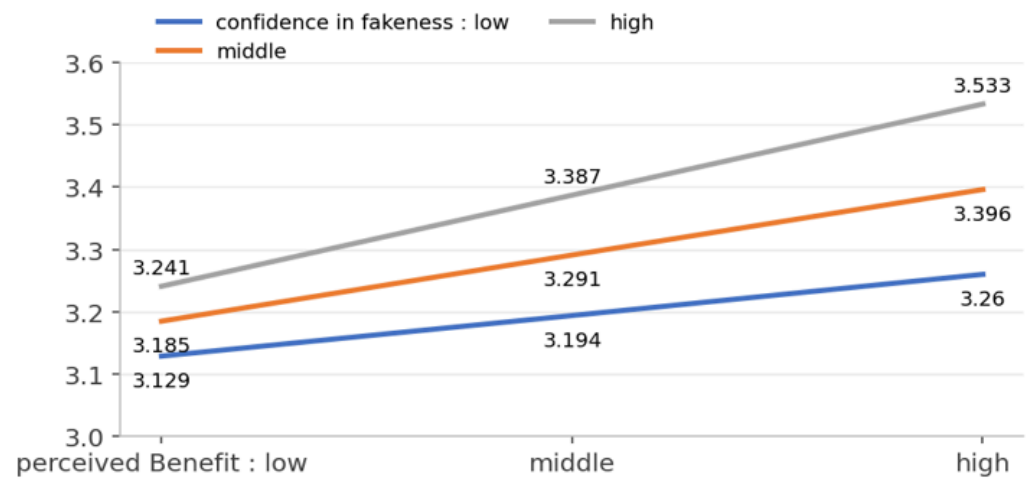


Figure 4

Perceived benefit (IV) × Confidence in fake news (M) → Moderate climate activism (DV).

Note. IV: independent variable; M: moderator); DV: dependent variable.

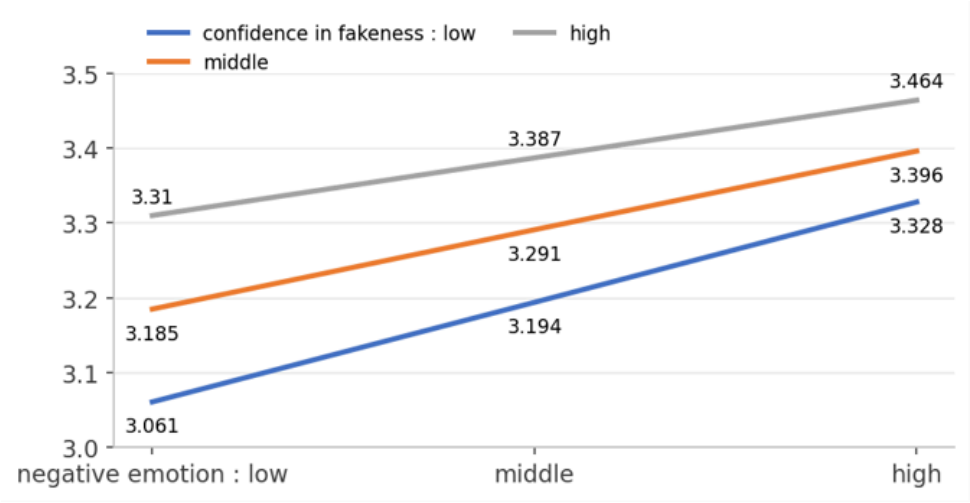


Figure 5

Negative emotion (IV) × Confidence in fake news (M) → Moderate climate activism (DV).

Note. IV: independent variable; M: moderator; DV: dependent variable.

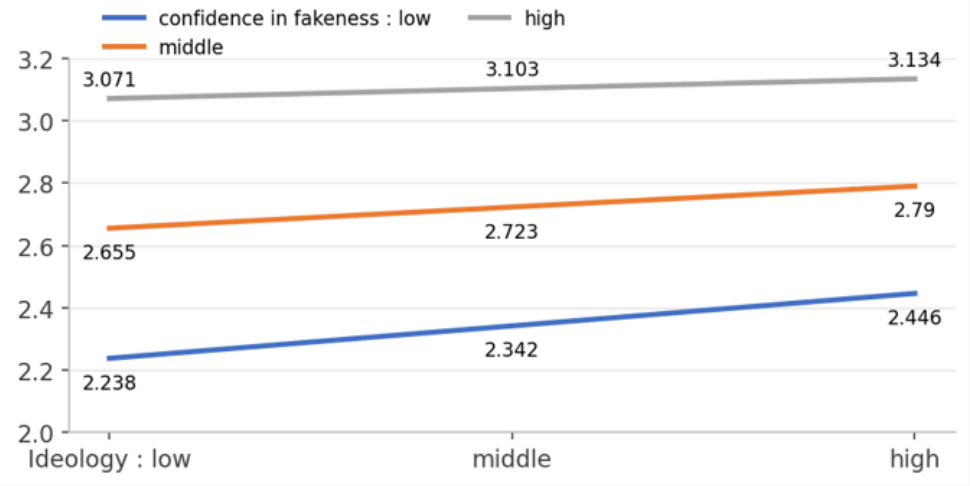


Figure 6

Ideology (IV) × Confidence in fake news (M) → Radical climate activism (DV).

Note. IV: independent variable; M: moderator; DV: dependent variable.

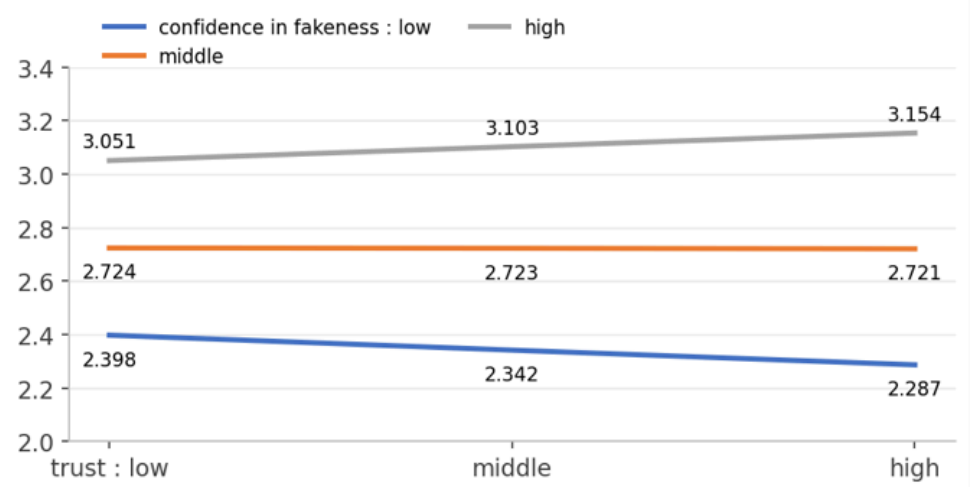


Figure 7

Trust (IV) × Confidence in fake news (M) → Radical climate activism (DV).

Note. IV: independent variable; M: moderator; DV: dependent variable.

Supplementary Files

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- Supplementary.zip
- Appendix.docx