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Radicalization of Environmental Protest

The Effect of Dehumanization on the Support of

Protesting Behavior

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Master Thesis

Applied Social Psychology

S3731065

July 2022

Department of Psychology

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Abstract

Environmental protest ranges from passive disobedience movements to violent riots. It shapes the public discourse and policies alike. While a growing body of literature investigates driving factors for radical collective action, the context of environmental protest has largely been missing in its scope. The current work aims to close this gap in the literature by addressing the question of what leads to radical environmental protest. The dual pathway model of anger and contempt was applied to this novel context. Further, we hypothesized a causal relationship between dehumanization and non-normative collective action and contempt to mediate this relationship. A 2 conditions x 2 types of collective action experimental design with participants from the UK was conducted in an online environment. One dehumanization condition and a control condition were included. We found that anger and dehumanization predict both normative and non-normative collective action support. Contempt has been shown to predict only non-normative collective action support. We were not able to find a causal relationship between dehumanization and non-normative collective action support but found that contempt mediates the predictive value of this relationship. Lastly, we explored different conceptualizations of dehumanization. The study gives unique insights into the realm of radical collective action. It investigates the context of environmental protest and applies previous findings to non-human actors. Further, it adds dehumanization as a novel predictor of non-normative collective action and shows that different conceptualizations of it should be compared with caution.

Keywords: collective action, radicalism, environmental protest, dehumanization

Radicalization of Environmental Protest

The Effect of Dehumanization on the Support of Protesting Behavior

Environmental protest has influenced the discussion surrounding topics of sustainability in media and policies alike. Leaders of pro-environmental protest groups have become influential figures in shaping the perception of environmentalism. Groups like Xtinction rebellion are prominent figures in the media landscape with their artistic demonstrations and foster discussions with their passive disobedience movement. Environmental protest can also take the form of a societal uproar with extreme clashes between protesters and police. Considering events like the riots surrounding the G20 summit in Germany, it is clear that more radical forms of protest can lead to dangerous conflicts. However, the question of why forms of environmental protest differ so widely in their radicalism remains unanswered.

Environmental protest is a form of collective action. Collective action is often defined as the act of an individual that is motivated by enhancing the status of a group (Wright, 1990). While collective action enjoys a rich history of research (for a review, see: van Zomeren et al., 2008), the body of evidence surrounding its more radical forms has only grown recently (Becker & Tausch, 2015; Pauls et al., 2022; Saab et al., 2016; Shuman et al., 2016; Tausch et al., 2011; Teixeira et al., 2020). While some advancements were made in understanding the driving factors of radical protest, additional research is needed for a more comprehensive understanding of the underlying mechanisms of radical collective action (Wright, 2009).

To our knowledge, the context of environmental protest has not yet been considered in the realm of radical collective action. Investigation of this topic could be an advantage for policymakers to foster less radical confrontations with protest groups (Schwarzmantel, 2010).

Further, previous research has primarily been interested in the relationship and power difference of societal groups with clear in and out-group distinctions (Becker & Tausch, 2015; Tausch et al., 2011). The context of environmental protest could give unique perspectives on the topic of radical collective action as it incorporates agents like cooperation. The consideration of a non-human actor in the context of collective action could yield some valuable insights. Additionally, topics of environmentalism have a less clear advantaged vs. disadvantaged group distinction as the consequences of unsustainable corporate behavior are likely to affect everyone (IPCC, 2022). The current work aims to close this gap in the literature. To shed light on the driving factors of choosing different forms of environmental activism, we want to aid in answering the question: *What leads to radical collective action in the context of pro-environmental protest?*

Normative and Non-Normative collective action

To investigate the driving factors of different collective actions, we will apply the distinction between normative and non-normative collective action that is commonly used in this line of research as operationalization of radicalism (Becker & Tausch, 2015; Pauls et al., 2022; Saab et al., 2016; Teixeira et al., 2020). The norms referred to in this distinction are the norms of the dominant social system rather than norms of the in-group of the individual (Wright et al., 1990). A normative collective action is thereby happening within the bounds of the regulative and legal system (e.g., registered and peaceful protest) in which the individual lives. A non-normative collective action would exceed these bounds (e.g., blocking traffic). For the sake of the current research, we will use the terms “radical” and “non-normative” interchangeably.

Using the same distinction, Tausch et al. (2011; also see: Becker & Tausch, 2015) proposed that certain group-based emotions are a predictor of the radicalism of collective

action. One of these emotions is anger. While group-based anger has been shown to be a strong predictor of collective action in the past (van Zomeren et al., 2008), their findings suggest it only being associated with normative collective action. While somewhat counterintuitive, anger is a constructive emotion that is aimed at changing the behavior of others back to the code of conduct (Shuman et al., 2018). Angry individuals are often confrontational at first but seek long-term reconciliation and improvement of their social relations (Fischer & Roseman, 2007). Because of this rather constructive nature of group-based anger, the collective actions that are motivated by this emotion do not usually exceed the normative rules. Anger seems to drive collective action that demands change within the confines of the dominant social system (Becker & Tausch, 2015; Tausch et al., 2011). It is important to mention that group-based anger does not refer to an immediate or spontaneous outburst but rather a long-term affective response when assessing the context in question.

Anger does not predict non-normative collective action. Instead, the more radical collective behaviors seem to be predicted by contempt (Becker & Tausch, 2015). While often experienced simultaneously (Fischer & Roseman, 2007), anger and contempt have important distinctions. For example, anger is often felt towards a specific action of others. Contempt, on the other hand, is an emotion that is often directed at behavior that seems systemic and out of one's control (Bell, 2013). Actions resulting from anger often occur inside the general code of conduct and aim at improving the relationship's status quo. On the other hand, feelings of contempt aim at distancing oneself from the relationship and have been shown to diminish the need for reconciliation (Fischer & Roseman, 2007). Feeling contempt is often associated with a detraction or belittlement of the other person (Haidt, 2003). This distance and perceived difference in status can serve as a justification for extreme acts of misconduct (Becker & Tausch, 2015; Staub, 1990; Tausch et al., 2011).

When feeling contempt toward the political or economic elite, non-normative action is more likely. This form of “upward- contempt” (Miller, 1995) can result in a collective derogation of the elite actors (Becker & Tausch, 2015). In turn, an exemption from the dominant social system's moral standards can occur, which will justify non-normative collective action (Struch & Schwarz, 1989). Anger leads to collective action that aims at improving the current system while behaving within the bounds of its rules. Contempt leads to actions that question and challenge the social system in place. These collective actions are not bound by the norms of the prominent social system but aim to distance oneself from it and reform the status quo (Becker & Tausch, 2015).

Although Tausch and colleagues (2011) laid a solid theoretical groundwork for the relationship between group-based emotions and collective action, they did not extend it to the context of environmental protest. The context could give some unique insights into conflicts with a less clear out-group and advantaged vs. disadvantaged distinction. Further, while discussing different political contexts, they have not investigated protests against the actions of corporations. Since the pro-environmental protest often refers to the action of big corporations, we deem it important to investigate this context. One of the aims of the current work will be to test if previous findings (Becker & Tausch, 2015; Tausch et al., 2011) translate to radical environmentalism and resulting protest towards corporations. We predict that: *(1) Anger predicts normative rather than non-normative collective action support, and (2) contempt predicts non-normative rather than normative collective action support in the context of environmental protest.*

Dehumanization as Predictor for Non-Normative Action

Previous research has shown dehumanization to play a role in the relationship between contempt and non-normative collective action (Tausch et al., 2011). However, its

role as a predictor in the processes behind the radicalization of collective action has, to our knowledge, not been investigated yet. Dehumanization is a concept that has slightly different connotations across different contexts (for an extensive review, see: Haslam, 2006). The social-psychological literature often refers to dehumanization as the perception of an out-group as unjust or failing to uphold “pro-social values” (Alexander, 1999; Struch & Schwartz, 1989). This process leads to a distancing from the dehumanized and justifies acts outside the scope of normative behavior (Opatow, 1995). Further, antagonistic social motives can be the result of dehumanization (Struch & Schwarz, 1989). Similarly, to when contempt is felt, the object of dehumanization seems to be outside of the moral bounds and thus a legitimate target of behavior that would typically not be normative in the dominant social system. Experimental evidence has shown that individuals that have been dehumanized were treated rougher and with less consideration (Bandura et al., 1975).

We argue that the dehumanization of a corporation can lead to a similar effect. Previous research has shown that cooperations can be dehumanized as well, despite the fact that they are a non-human actor. When dehumanized, corporations are no longer seen within the bounds of moral actions (Craze, 2018). Non-normative actions against them are justified as the collective has distanced itself from the corporations and does not seek reconciliation (Bandura, 2022). The corporations are no longer deemed worthy of the same moral standards, and non-normative actions are without the consequence of empathic distress or guilt (Bandura, 1996). Further, dehumanization entails a perception of value violation (Alexander, 1999; Struch & Schwartz, 1989). Previous research has shown that individuals are willing to take collective action that steps beyond social norms to defend their convictions (Pauls et al., 2022). Non-normative collective action could serve as an expression of questioning the moral stance of the higher status group (Teixeira et al., 2020). Therefore, we predict that: (3)

Dehumanization leads to non-normative rather than normative collective action support in the context of environmental protest.

Dehumanization as Predecessor of Contempt

Dehumanization and contempt could influence collective action in a similar fashion. Both contempt and dehumanization are processes of psychological distancing (Fischer & Roseman, 2007; Struch & Schwartz, 1989). They create a difference of status between the parties that legitimizes non-normative actions (Struch & Schwartz, 1989; Tausch et al., 2011). While dehumanization is an important process in the relationship of contempt and collective action, the nature of said relationship is not yet been fully understood.

Dehumanization could serve as a predecessor of contempt in this context. Previous research has shown that dehumanization can lead to negative emotional reactions like contempt. This emotional reaction, in turn, influences attitude toward the dehumanized negatively and leads to a wish for exclusion from the group (Esses et al., 2008). We want to investigate if this relationship translates to the context of collective action. We predict that:

(4) Dehumanization leads to non-normative collective action support in the context of environmental protest through the feeling of contempt.

Exploring Differences in Conceptualization of Dehumanization

While there is a large body of research regarding dehumanization, the conceptualization of it can be quite diverse (Haslam, 2006). Different researchers may make claims about dehumanization while using conceptualizations from different backgrounds (Esses et al., 2008; Haslam & Bastian, 2011). This could result in faulty conclusions or misleading comparisons of research findings. To avoid making this mistake and contribute to clarifying the relationship, we want to investigate two different conceptualizations of dehumanization: The enemy image (Alexander et al., 1999) and mechanical dehumanization

(Haslam, 2006). These conceptualizations were chosen because of their fit to the context of a disadvantaged group dehumanizing an advantaged group.

The Enemy Image

Alexander et al. (1999) have identified the enemy image as part of their functional theory of out-group representation. This image includes attributes of manipulateness and evil. It emphasizes opportunistic actions and immoral conduct. It nicely fits into the definition of not upholding “Pro-social values” that we established as part of the definition of dehumanization and includes the justification of action against “the enemy”. Additionally, it applies to the context of the dehumanization of an advantaged group with higher status. (Esses et al., 2008).

Mechanical Dehumanization

Mechanical dehumanization was conceptualized in an integrative review by Haslam (2006). He identifies attributes that define human nature, such as emotional responsiveness, interpersonal warmth, and emotional depth. When individuals are perceived to be missing these qualities, they are perceived as machine-like creatures instead of human beings (Bastian & Haslam, 2011). The resulting mechanistic dehumanization includes attributes like emotional inertness, coldness, and rigidity. Other conceptualizations of dehumanization degrade the object of dehumanization by comparing it to an animal or a being less than human (Barbarian Image: Alexander 1999; Animalistic dehumanization: Haslam, 2006; Struch & Schwartz, 1989). Mechanical dehumanization is a perception of otherworldliness and missing human nature (Haslam, 2006). It is a fitting conceptualization in this context as it does not assume a lesser status of the dehumanized.

Overview

The current research aims to investigate: *What leads to radical collective action in the context of pro-environmental protest?* We use Wrights' (1990) distinction between normative and non-normative collective action to operationalize the radicalism of collective action. Because of ethical and practical reasons, we are not able to create a situation of collective action under experimental conditions. We, therefore, investigate collective action support as the outcome variable. We predict that : (1) *Anger predicts normative rather than non-normative collective action support*, and (2) *contempt predicts non-normative rather than normative collective action support in the context of environmental protest*.

We further want to investigate the relationship between dehumanization and collective action. We predict that (3) *Dehumanization leads to non-normative rather than normative collective action support in the context of environmental protest*. Further, we want to investigate dehumanization as a possible predecessor of contempt. We predict : (4) *Dehumanization leads to non-normative collective action support through the feeling of contempt*. Lastly, we want to explore the relatedness of different conceptualizations of dehumanization.

Methods

Participants and Design

Two hundred British participants were recruited via the online platform Prolific (www.Prolific.co). Two participants were excluded due to failing the attention check, which yielded a sample of 198 participants. All participants that completed the study were compensated with 1 £ via the recruiting website. The sample consisted of 150 females, 46 males, and one non-binary participant. One participant chose not to further specify their gender. The age of the participants ranged from 18 to 73 ($M_{\text{age}} = 39.24$, $SD_{\text{age}} = 13.59$).

The study was a 2 conditions x 2 types of collective action support experimental design. Participants were equally and randomly assigned to either a dehumanization or a control condition. Further, each participant reported their support for normative and non-normative behavior. The ethics committee of the Behavioral and Social Sciences Faculty approved the experiment.

Materials

Environmental Self-Identity

To get an overview of the Environmental self-identity of the sample, we included a scale by van der Werf et al. (2013). The scale consisted of three items; each answered on a five-point Likert scale (1=strongly disagree- 5=strongly agree). The items were: “Acting environmentally friendly is an important part of who I am.”, “I am the type of person who acts environmentally friendly”, and “I see myself as an environmentally-friendly person”. The items were then collapsed into a composite score ($\alpha=.82$), representing the Environmental self-identity of the participants. More specifically, higher levels in this score represent a stronger Environmental self-identity of the participants.

Manipulation check

To check whether our manipulation was successful, we included two scales and one Inclusion of Others in Self task. The different measurements were also used to investigate if the different approaches in the dehumanization literature are measuring the same construct. The company that will be discussed in the manipulation will be Cuadrilla, a British gas and energy company that has recently made a push for revisiting the ban on Fracking in the UK.

Mechanical Dehumanization. One of the scales was created by Haslam (2006; also see: Loughnan & Haslam, 2005) and fits his proposed construct of Mechanical Dehumanization. First, participants were asked to fill out five items on a five-point Likert

scale (1=strongly disagree- 5=strongly agree). They indicated to what degree they agree with the statement “The following traits are beneficial for realizing Cuadrillas projects:” with the items: “emotional inertness”, “emotional coldness”, “rigidity”, “superficiality”, and “shamelessness”. Next, they answered two negatively coded items on a five-point Likert scale (1=strongly disagree- 5=strongly agree). The items were “Cuadrillas work leaves room for compassion for the suffering of others” and “Cuadrilla takes larger societal considerations into account when planning projects”. All Items of this scale were collapsed into a composite score ($\alpha=.82$), representing mechanical dehumanization. Higher levels of this score represent higher levels of the participant's mechanical dehumanization of the company Cuadrilla.

Enemy Image. The next scale was based on the Enemy Image construct, proposed by Alexander et al. (1999). The scale consisted of four items measured on a five-point Likert scale (1=strongly disagree- 5=strongly agree). The Items were: “the way that Cuadrilla follows their objective is self-centered”, “the way that Cuadrilla follows their objectives is harmful to others”, “Cuadrilla would take advantage of any efforts on our part to co-operate”, and “Cuadrilla would exploit us if given the chance”. The items were collapsed into a composite score ($\alpha=.83$), which represented the extent to which the participants thought Cuadrilla fit into the Enemy Image. More specifically, higher levels in this score represent a better fit of Cuadrilla in the enemy image, according to the participants. A better fit into said image represents a higher degree of dehumanization.

Inclusion of Others in Self. Following the example of Moller and Deci (2010), we included a modified version of an Inclusion of Others in Self measure (IOS) to measure mechanical dehumanization. Previous research used these measures to investigate the feeling of closeness that participants felt to others by asking them to show the degree to which they feel that the other person is part of their self-concept (Aron et al., 1992). Moller and Deci (2012) used a modified version of the measurement to investigate the degree to which

participants felt dehumanized. For the purpose of the current research, the measure was modified to the context of the study. The task consisted of two sets of circle pairs with varying degrees of overlap. Each set consisted of five pairs, creating a five-point interval scale. The circle of one set was labeled “Humans” and “Machines”. The circles of the other set were labeled “Cuadrilla” and “Machines”. Participants were asked: “Looking at the graphic above, please indicate which of the circle pairs represents the overlap of the traits of humans and machines” and “... represents the overlap of the traits of Cuadrilla and machines”. The difference in scores between the two circle sets indicates the mechanical dehumanization of Cuadrilla. A larger difference indicates a greater dehumanization.

Emotion

Contempt. The degree of contempt participants felt was assessed using three items on a five-point Likert scale (1=strongly disagree- 5=strongly agree). The items were: “ I detest Cuadrilla”, “I disdain Cuadrilla”, and “I feel contempt when thinking about Cuadrilla”. The items were collapsed into a composite score ($\alpha=.88$), that indicated the feeling of contempt of the participants. Higher levels of this score indicated a stronger feeling of contempt of the participants.

Anger. The degree of anger participants felt was assessed using three items on a five-point Likert scale (1=strongly disagree- 5=strongly agree). The items were: “I am furious about Cuadrilla's actions”, “The actions of Cuadrilla anger me”, and “ The actions of Cuadrilla fill me with rage”. The items were collapsed into a composite score ($\alpha=.92$), that indicated the feeling of anger of the participants. Higher levels of this score indicated a stronger feeling of anger in the participants.

Normative and Non-Normative Collective Action Support

Normative Collective Action Support. The support for normative collective action was measured with three items on a five-point Likert scale (1=strongly disagree- 5=strongly agree). The participants answered if they "...would support the following actions as opposition to Cuadrillas plan to restart Fracking". The items were actions identified as types of political participation by Sabucedo and Arce (1991). The items included: "Inform the press about Cuadrillas action", "Vote a party that opposes Cuadrillas plans", and "Participate in an authorized demonstration". They were collapsed into a composite score ($\alpha=.81$), which represented the overall normative collective action support of the participants. Higher levels of this score indicated higher support for normative collective actions from the participants.

Non-Normative Collective Action Support. The support of non-normative collective actions was measured with three items on a five-point Likert scale (1=strongly disagree- 5=strongly agree). The participants were asked if they "...would support the following actions as opposition to Cuadrillas plan to restart Fracking". The items were: "Boycott Cuadrilla", "Stopping the traffic to the working sites of Cuadrilla", and "Participating in an unauthorized demonstration" (Sabucedo & Arce, 1991). They were collapsed into a composite score ($\alpha=.84$), which represented the overall non-normative collective action support of the participants. Higher levels of this score indicated higher support for non-normative collective actions from the participants.

Procedure

Before participating in the study, all participants gave informed consent. They then proceeded to give some socio-demographic information (age, gender, country of residence). Afterward, they filled out an environmental self-identity questionnaire (Werf et al., 2013). Next, all participants were presented with a mock article with information about the current situation of Fracking in the UK. Participants in the control condition (Appendix A) read an

article containing a definition and an explanation of the current legislation on Fracking. The article contained possible benefits and dangers of Fracking operations as well as a description of past Fracking ventures of the company Cuadrilla. Participants in the dehumanization condition (Appendix B) read the same article with the addition of a dehumanizing depiction of Cuadrilla (Alexander et al., 1999; Haslam, 2006). Participants were then asked to divide the article into sensible sections and find suitable sub-headings for each section they identified. This task was included to verify that participants engaged with the text and paid attention while reading.

After reading the article, all participants filled out questionnaires regarding the dehumanization of the described companies. Further, they had to indicate the closeness of humans and machines as well as Cuadrilla and machines in a modified IOS task (Appendix C). Lastly, the participants indicated their support of different normative and non-normative collective actions in a questionnaire (Sabucedo & Arce, 1991). The study was concluded by a debriefing which included the purpose of the study and its key questions. They were informed that the article they read had never been published and that the information in it might be false.

Results

Manipulation Check

To check whether our manipulation was successful we conducted independent sample t-tests for each conceptualization of dehumanization. Participants in the dehumanization condition ($M = 3.64$, $SD = 0.79$) reported higher levels of mechanical dehumanization than those of the control condition ($M = 3.29$, $SD = 0.69$), $t(196) = -3.36$, $p = .001$, $d = -0.48$, 95% CI = [-0.56, -0.15]. The dehumanization condition ($M = 4.00$, $SD = 0.79$) scored slightly higher in the enemy image scale than the control condition ($M = 3.85$, $SD = 0.79$). However,

the difference was not significant, $t(196) = -1.36, p = .176, d = -0.19, 95\% \text{ CI} = [-0.36, 0.6]$. Lastly, participants of the dehumanization condition ($M = 0.84, SD = 1.18$) did not differ significantly in their response the modified IOS task compared to the control condition ($M = 0.76, SD = 1.02$), $t(196) = -0.52, p = .606, d = -0.07, 95\% \text{ CI} = [-0.39, 0.23]$. By conducting a paired sample t-test we found that in general, participants felt that the company Cuadrilla was significantly closer to machines ($M = 3.68, SD = 1.02$) than other humans ($M = 2.88, SD = 1.04$), $t(197) = -10.22, p < .001, d = -0.73, 95\% \text{ CI} = [-0.95, -0.64]$. For hypothesis testing (4&5) we will proceed with mechanical dehumanization as independent variable as it is the conceptualization of dehumanization that was successfully manipulated.

Confirmatory Analysis

Before conducting the analysis for our hypotheses, we first investigated the overall Environmental self-identity of our sample ($M = 3.93, SD = 0.80$). There was no significant difference between the dehumanization condition ($M = 4.01, SD = 0.07$) and the control condition ($M = 3.86, SD = 0.09$) in Environmental self-identity, ($t(196) = -1.33, p = .185, d = -0.19, 95\% \text{ CI} = [-0.38, 0.07]$). The Environmental self-identity is significantly related to the anger ($r = 0.38, p < .001$) and contempt composite ($r = 0.34, p < .001$).

To test the effect of the emotion variables on the kind of collective action support we conducted multivariate multiple regression analysis. Due to the close relationship of anger and contempt ($r = 0.85, p < .001$) this was necessary to evaluate the effects the emotions have when controlled for one another. Contrary to our expectations, (1) anger predicted both, normative ($\beta = 0.55, t(196) = 4.97, p < .001, \eta_p^2 = 0.11, 95\% \text{ CI} = [0.328, 0.762]$) and non-normative collective actions support ($\beta = 0.56, t(196) = 5.38, p < .001, \eta_p^2 = 0.13, 95\% \text{ CI} = [0.35, 0.76]$) significantly. As expected, (2) contempt did not predict normative collective action support ($\beta = 0.13, t(196) = 1.10, p = .273, \eta_p^2 = 0.01, 95\% \text{ CI} = [-0.10, 0.36]$) but did

significantly predict non-normative ($\beta = 0.29$, $t(196) = 2.68$, $p = .008$, $\eta_p^2 = 0.04$, 95% CI = [0.08, 0.51]) collective action support.

To further control for the relatedness of the two emotion variables, we centered the anger and contempt composites and computed their interaction effect. Next, we conducted an additional multivariate multiple regression analysis including the centered emotion composites and their interaction effect. We found that, (1) anger predicts normative ($\beta = 0.55$, $t(195) = 4.93$, $p < .001$, $\eta_p^2 = 0.11$, 95% CI = [0.33, 0.76]) and non-normative collective action support ($\beta = 0.57$, $t(195) = 5.60$, $p < .001$, $\eta_p^2 = 0.14$, 95% CI = [0.37, 0.77]). (2) Contempt did not predict normative ($\beta = 0.13$, $t(195) = 1.08$, $p = .282$, $\eta_p^2 = 0.01$, 95% CI = [-0.10, 0.36]) but significantly predicted non-normative collective action support ($\beta = 0.33$, $t(195) = 3.02$, $p = .003$, $\eta_p^2 = 0.05$, 95% CI = [0.11, 0.54]). This additional analysis shows that our findings are stable when controlling for the interaction effect of anger and contempt.

To test whether (3) dehumanization leads to non-normative collective action support, we conducted a multivariate regression analysis. Against our expectations, mechanical dehumanization significantly predicted normative collective action support ($\beta = 0.54$, $t(196) = 6.02$, $p < .001$, $\eta_p^2 = 0.16$, 95% CI = [0.36, 0.71]) and non-normative collective action support ($\beta = 0.63$, $t(196) = 6.64$, $p < .001$, $\eta_p^2 = 0.184$, 95% CI = [0.44, 0.81]). To test whether the condition of the participants had a significant effect on the type of collective action support, we conducted a 2x2 mixed model ANOVA with the collective action support variables as within factor and the condition as between factor. We found no significant effect of the condition of the participants on the type of collective action chosen ($F(1) = 1.60$, $p = .208$, $\eta_p^2 = 0.01$). So, while dehumanization in general significantly predicted both collective action variables, we were not able to find a difference in the collective action chosen after the manipulation.

To investigate whether contempt mediates the relationship of dehumanization and non-normative collective action, we used the statistics program Jamovi. Without the consideration of contempt as moderator dehumanization significantly predicts non-normative collective action support, $\beta = 0.80$, $t(196) = 13.00$, $p < .001$. When including contempt to the model as a mediator the relationship differs. We estimated that mechanical dehumanization significantly predicts contempt ($\beta = 0.78$, $z = 11.23$, $p < .001$) which in turn predicts non-normative collective action support ($\beta = 0.79$, $z = 10.14$, $p < .001$). The direct path of mechanical dehumanization to non-normative collective action was not significant after the consideration of contempt ($\beta = 0.01$, $z = 0.07$, $p = 0.944$) (Summary in Figure 1.).

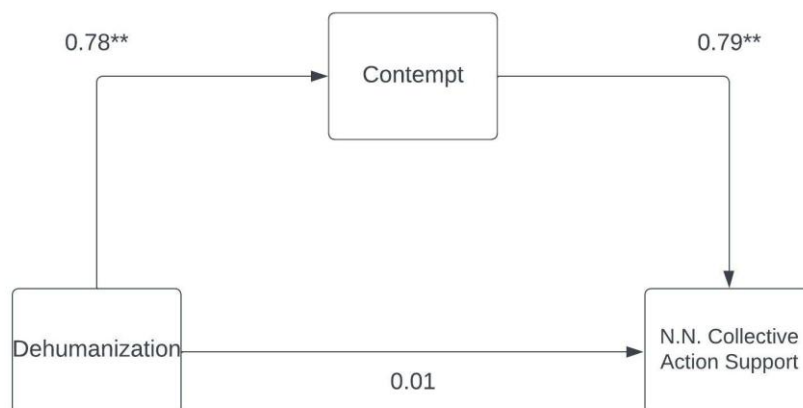
Figure 1.

Mediation model

(1)



(2)



Note. Model (1 represents the direct path of dehumanization on non-normative collective action support. Model (2 represents the mediation model, including contempt as mediator.

**p < .001

Exploring Possible Differences in Dehumanization Conceptualizations

To explore possible differences in the conceptualization of dehumanization, we investigated the degree of relatedness between the different constructs. We found that mechanical dehumanization is strongly correlated to the enemy image but non-significantly to the modified IOS task. The enemy image was significantly related to the modified IOS task (Table 1). These results are quite interesting since the conceptualizations seem related, while the manipulation had different effects on the different conceptualizations.

Table 1

Pearson Correlations

	Mechanical	Enemy Image
Mechanical	—	
Enemy Image	0.642 **	—
IOS Task	0.096	0.251 **

** p < .001

Discussion

The current study aimed to investigate factors leading to radicalization in the context of environmental protest. The degree of radicalism within protesting behavior was operationalized with the distinction of normative and non-normative collective action support (Wright et al., 1990). We tested the role of group-based anger and contempt as well as dehumanization in this context. Further, we looked into the role of group-based contempt in the relationship between dehumanization and non-normative collective action support. Lastly, we explored the relationship between different dehumanization conceptualizations. We hypothesized that (1) *Anger predicts normative rather than non-normative collective action*

support and (2) contempt predicts non-normative rather than normative collective action support in the context of environmental protest. Further, we predicted that (3) Dehumanization leads to non-normative rather than normative collective action support in the context of environmental protest. Lastly, we expected that (4) Dehumanization leads to non-normative collective action support through the feeling of contempt.

Contrary to our expectations, anger predicted both normative and non-normative collective action support. This could be explained by a difference in context compared to previous research. However, a more likely explanation is that we did not include non-normative actions that contain violence or other extreme behavior. Previous research has shown that anger does predict more moderate non-normative collective action tendencies. The differences in our findings from previous research might be due to us not including a distinction between moderate and extreme non-normative action support. More specifically, anger was shown to predict non-violent non-normative collective action (Becker & Tausch, 2015; Tausch et al., 2011). Since we only included non-violent, non-normative collective action, we can make no assumptions about the predictive value of anger for extreme and violent forms of non-normative collective action support. However, we were still able to show that the findings of previous research regarding the predictive role of anger and the type of non-normative collective action chosen translate to the context of environmental protest.

As expected, contempt predicted only non-normative collective action support but not normative collective action support. This is in line with the findings of previous research (Becker & Tausch, 2015; Tausch et al., 2011). Our findings show that the relationship between contempt and non-normative collective action translates to the context of environmental protest. This is especially interesting due to the unique relationship of the parties involved in this type of collective action. Previous research mainly concentrated on the collective action of different disadvantaged societal groups (Becker & Tausch, 2015).

Since our study gives insights into the processes behind the collective action support of citizens towards companies, it shows that the findings of previous research are resilient to a change of context.

Dehumanization did not lead to non-normative collective action intention. However, dehumanization did predict both collective action support variables when not considering the conditions. While our manipulation did not show the effect that we expected, we can still make some cautious inferences from our findings. First, dehumanization seems to predict collective action in general. It could serve as an additional predictor for future collective action modeling. Secondly, the dehumanizing depiction in the media does not seem to have a significant effect on the kind of collective action that is supported by the individual. These findings are further discussed in the limitations section.

As expected, the relationship between mechanical dehumanization and non-normative collective action support was mediated by contempt. This is an indicator that mechanical dehumanization serves as a predecessor of contempt in the context of non-normative collective action. The illumination of the relationship between dehumanization and contempt can aid in a more comprehensive understanding of the processes that are underlying non-normative collective action.

Lastly, we explored how the different conceptualizations of dehumanization are related. Mechanical dehumanization (Haslam, 2006) and the enemy image (Alexander et al., 1999) were moderately correlated. However, the manipulation of this study only significantly affected mechanical dehumanization. Further, we found that the mechanical dehumanization scale was not significantly related to the modified IOS task. This is surprising as previous research used a similar method to measure mechanical dehumanization (Moller & Deci, 2010). This could be due to the novel context that our study features. It is also possible that

the modification of the task leads to the unrelatedness of the different operationalizations. Previous research focused on the inclusion of the individual in a certain category, while the current work investigated the degree to which individuals include others in a certain category. While we cannot make clear claims about the source of the differences, our study still opens up the room for discussion about the comparability of these different measures.

Limitations and Implications for Future Research

Despite the valuable insights we gained through our study, it is not without limitations. Firstly, the overall environmental self-identity of the participants in our sample is rather high ($M = 3.93$, $SD = 0.80$). While the difference between the dehumanization group and the control group was not significant, an overall high level of this trait in the sample could still bias the findings as we found significant relationships between environmental self-identity and the emotion variables. People with a high environmental self-identity may have strong feelings about an already polarizing topic like Fracking. Further, the overall levels of dehumanization were rather high as well. On average, participants reported dehumanizing the discussed company regardless of condition. When consulting the IOS task, we observed a significant difference in mechanical dehumanization between Cuadrilla and humans regardless of condition. These strong attitudes of the participants might have influenced the impact of the manipulation and the collective action that was supported. We would advise future research to do pre-screening of the sample to avoid possible biases or opt for manipulations with more immersive media types (e.g., film or simulation).

Lastly, the study did not include violent non-normative collective action. To have an accurate investigation of the impact that the discussed factors could have on collective action support, the study should have included more extreme collective actions. Previous research found that anger did predict non-violent, non-normative collective action (Becker & Tausch,

2015). To investigate the anger-contempt distinction as predictors of collective action support in the context of environmental protest, future research should include violent collective actions.

Theoretical Implications

The current study gives valuable insights into processes behind collective action support and translates previous findings to the context of environmental protest. We were able to replicate the findings of previous research regarding the relationship between group-based emotion and the normative non-normative collective action distinction. Through replicating these findings to environmental protest, we showed that they are resilient to changes in context. Especially the inclusion of companies as non-human actors in collective action is a novel approach as previous research has mostly concentrated on different population categories or governmental institutions (Becker & Tausch, 2015; Pauls et al., 2022; Saab et al., 2016; Tausch et al., 2011).

We investigated the role of dehumanization in collective action support. The current work showed that dehumanization serves as a predictor for both normative and non-normative collective support. While previous work has shown the dehumanization of a non-human actors like companies (Craze, 2018), bringing this concept into the domain of collective action is a novel approach. Further, we showed that the relationship between dehumanization and non-normative collective action support is mediated by contempt. The consideration of this predictor can aid in more comprehensive collective action modeling and clarifies the relationship between dehumanization and contempt in this context.

Dehumanization as a predictor of collective action solidifies the role of perceived moral violation in collective action research (Pauls et al., 2022; Teixeira et al., 2020). The current work expands on previous research suggesting that more pathways than group-based

emotions need to be considered for understanding radical collective action (Shuman et al., 2016). Our exploration of different conceptualizations of dehumanization could serve as a starting point for discussing possible differences between them. We showed that the findings of studies that use differentiating conceptualization or operationalizations of dehumanization should be compared with caution.

Practical implications

The findings of this study yield important practical implications. Environmental and sustainability issues have vast media coverage. The nature of our manipulation and its (partial) success in inducing a dehumanization of a company through a single article shows the role that the media has in presenting information about this issue. Especially the predictive value that dehumanization has on non-normative collective action support shows the responsibility of media coverage in shaping the public discourse. Further, investigating the reasons for radical environmental protests could be of interest to policymakers that aim to prevent radical behavior. Lastly, the wide media coverage of environmental protest and the influence that the protest groups and their leaders have on public opinion make the importance of investigating this topic evident. The current work could serve as a valuable starting point for future research to understand the processes behind normative and non-normative collective action in the context of environmental protest.

Conclusion

The present study investigated the driving factors of radicalism in environmental protest. We found that the findings of previous research translate to the context of environmentalism. Anger predicted both normative and non-violent, non-normative collective action support. Further, contempt predicted non-normative collective action support. This shows that previous findings are resistant to a change in contexts with non-human actors. The

current work took a novel approach by including dehumanization as a predictor. We found that dehumanization predicts both normative and non-violent, non-normative collective action support. We found that contempt mediates the relationship between dehumanization and non-normative collective action support. Dehumanization could take an important role as a predecessor to contempt in its role as a driving factor for radical protesting behavior. It seems that group-based emotion and dehumanization play a unique role in motivating different collective action behaviors. Future research should concentrate on more immersive media depictions of dehumanizing properties and the inclusion of violent, non-normative collective action as dependent variable. At a time when environmental protest is part of the public discourse surrounding topics of sustainability, investigating the motivators of radical protesting behavior is an important endeavor. The current work serves as a starting point for understanding what drives people to radical collective action in the context of environmental protest.

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Appendix A

Manipulation Article (Control Group)

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Fracking - Underground Treasure or National Danger?

14 March

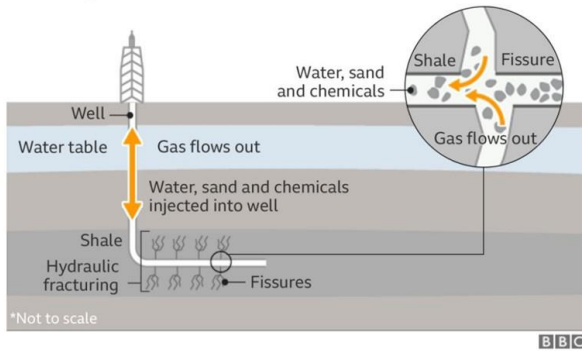


With Gas Prices Skyrocketing in the last months, Fracking is back on the table. Hydraulic Fracturing (or "Fracking") is a process to extract gas from deep under the ground. The gas is caught in between different layers of shale formations.

A deep well, is drilled often reaching a depth of several thousand feet. Once the well reached the shale formation, a mixture of water and different chemicals is released into the well with high pressure.

The water mixture then finds its way between the shale and fractures it, releasing the gas that was caught between the layers. The gas is then extracted through the well.

Shale gas extraction



One of the most interesting areas for Fracking in the UK is Bowland Basin. The Gas and Energy company Cuadrilla drilled the first wells in 2010 but had to quickly stop their operation because seismic events caused by their work in the area lead to the government intervening.

The new legislation made it very hard to extract gas via Hydraulic Fracturing as they forbid even minor tremors caused by the extracting process. As a result, there has been no commercial production of shale gas in the UK since 2014.

Lately, Cuadrilla is trying to change that legislation. They are promising hidden treasures of natural gas right beneath our feet'. If Cuadrillas claims are true, the deposits in Lancashire alone could be enough to supply the UK for 50 years.

While these additional gas supplies could help to lower the gas prices and to make the UK more energy independent there is strong opposition to the Fracking ventures of Cuadrilla.



An anti-fracking protester writes messages on a wall in Lancashire

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Opponents of Fracking stress the dangers that come with it. The over 120 unpredictable tremors that were a direct result of Cuadrillas work are just one of the worries that arise with the topic.

The process of freeing the natural Gas from the shale formations takes massive amounts of water that have to be transported to the Fracking sites. In the process the water is polluted with chemicals, making it unusable for different purposes.

Since the wells are dug deep into the ground there is danger of pollution. If one of the wells should fail, the chemical rich water used by Cuadrilla could contaminated the groundwater.



CUADRILLA/PA

Fracking has been suspended across the UK over concerns about earthquakes

Fortunately, the UK government has said the ban on Fracking remains. However, they do hold the option of revising the ban should science or the public opinion change.

In its new energy plan released in March, Labour reiterated its position that fracking should not be restarted. It seems that Fracking is off the table for the time being.

- 6 **Sweden: accounts filed to curb abortion**
- 7 **Jordan: Cyprus's possible return to rule**
- 8 **America: Fracking's impact on environment after 2019**
- 9 **Spain: adviser resigns as it discusses trade talks**
- 10 **China: power plants: What do we know so far?**

Coronavirus lockdown measures

Appendix B

Manipulation Article (Dehumanization Group)

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Fracking - Underground Treasure or National Danger?

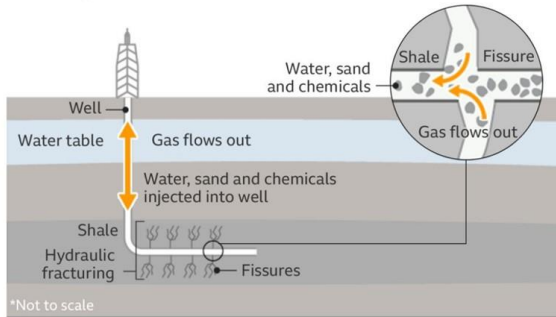


With Gas prices skyrocketing in the last months, Fracking is back on the table. Hydraulic Fracturing (or "Fracking") is a process to extract gas from deep under the ground. The gas is caught in between different layers of shale formations.

A deep well, is drilled often reaching a depth of several thousand feet. Once the well reached the shale formation, a mixture of water and different chemicals is released into the well with high pressure.

The water mixture then finds its way between the shale and fractures it, releasing the gas that was caught between the layers. The gas is then extracted through the well.

Shale gas extraction



One of the most interesting areas for Fracking in the UK is Bowland Basin. The Gas and Energy company Cuadrilla drilled the first wells in 2010 but had to quickly stop their operation because seismic events caused by their work in the area lead to the government intervening.

The new legislation made it very hard to extract gas via Hydraulic Fracturing as they forbid even minor tremors caused by the extracting process. As a result, there has been no commercial production of shale gas in the UK since 2014.

Lately, Cuadrilla is making a push to change that legislation. They are promising hidden treasures of natural gas right beneath our feet. If Cuadrilla's claims are true, the deposits in Lancashire alone could be enough to supply the UK for 50 years.

While these additional gas supplies could help to lower the gas prices and make the UK more energy independent there is strong opposition to the Fracking ventures of Cuadrilla.



An anti-fracking protestor writes messages on a wall in Lancashire

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Opponents of Fracking stress the dangers that come with it. The over 120 unpredictable tremors that were a direct result of Cuadrillas work are just one of the worries that arise with the topic.

The process of freeing the natural Gas from the shale formations takes massive amounts of water that have to be transported to the Fracking sites. In the process the water is polluted with chemicals, making it unusable for different purposes.

Since the wells are dug deep into the ground there is danger of pollution. If one of the wells should fail, the chemical rich water used by Cuadrilla could contaminated the groundwater.



Cuadrilla is neglecting these concerns. They try to change the public opinion with deceptive tactics. While it is true that there are big gas deposits in Lancashire, experts say we could only access a fraction of it and by no means support the whole UK for 50 years by just one Fracking site.

It seems that the possibility of pollution of the ground water as well as the massive amounts of water that would be polluted in the process of fracking do not concern Cuadrilla as much as the money in the pockets of their share holders.

Not even possible damage to the properties of the neighboring communities through tremors can stop them in their pursuit of increasing their own market value.



Fracking has been suspended across the UK over concerns about earthquakes. Fortunately, the UK government has said the ban on Fracking remains. However, they do hold the option of revising the ban should science or the public opinion change.

In its new energy plan released in March, Labour reiterated its position that fracking should not be restarted. It seems that we are still safe from Cuadrillas money hungry ventures.

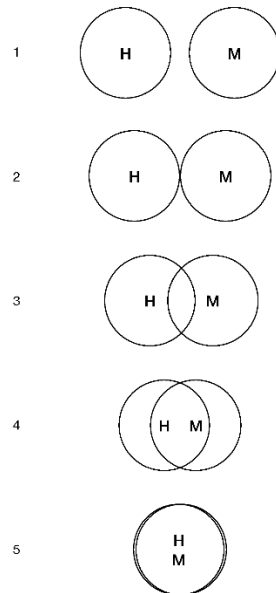


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Appendix C

Modified IOS task

Human-Machine



Cuadrilla Machine

