

The Radical Flank: Curse Or Blessing?

The Radical Flank: Curse or Blessing of a Social Movement?

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Author Note: Correspondence concerning this article should be addressed to Eric Shuman, Meyer Hall, 6 West Washington Place, New York, NY 10003, E-mail: eshuman1650@gmail.com. We have no known conflict of interest to disclose. Eric Shuman is now at the New York University Department of Psychology and the Harvard Business School. All data, code and the pre-registrations for Study 1 and 2 are available at https://osf.io/z5d4s/?view_only=2ca93d47f50341d2aafd774fb5d51d04 .

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Research Highlights:

- Scholars have not yet unraveled the complex effects that the presence of a radical flank has on the different factions within a social movement.
- Using experimental methods, the present research tests how a radical group influences public support (i.e. intentions to participate and donate) for both the radical flank and the moderate group.
- The direct contrast between the groups impacted the moderates positively in Study 1: They gained identification and support (Study 1), while the radical flank was judged more harshly and lost support (Study 2). However, the relative strength of those effects appears to differ across contexts.
- Moreover, Study 2 found that the effects depended on the observers' sympathy for the movement's cause. Overall, sympathizers were more sensitive towards the chosen tactics of the activists.

Social movements often comprise a variety of actors employing differing levels of radicality. This study examines how collective action enables social change by studying the influence of the presence of a radical flank on public support for moderate and radical activists. We report two experimental studies investigating the reactions towards the protests of a movement in the United Kingdom opposing a university's reduction in sustainable catering options ($N = 485$) and an anti-fracking movement in the US ($N = 455$). In both experiments, participants read a fake newspaper article about a (1) completely nonviolent, (2) completely violent or (3) mixed violent/nonviolent movement including a radical flank. The tested models reveal that identification with the activists drives effects on public support (i.e. intentions to participate and donate). Specifically, the presence of a radical flank caused an increase in public support for the moderates (Study 1) or a decrease in support for the radicals (Study 2). Study 2 additionally found that the magnitude of the effects is moderated by the participants' sympathy for the movement's cause. Observers who were sympathetic towards the advocated changes reacted more strongly towards the chosen tactics. Implications for theory, practice and future research are discussed.

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Non-Technical Summary

Background

Some environmental activists use radical tactics, such as violence and destruction, as part of their protest actions. These groups are known as radical flanks, because they are more extreme in their beliefs, choice of tactics or political demands compared to other moderate groups who are fighting for the same cause.

Why was this study done?

Currently, there are mixed views on whether the presence of a radical flank helps or hinders an environmental movement in harnessing public support. Our goal was to use an experimental approach to bring clarity to this question. Specifically, we focused on how the contrast between the groups leads us (as individuals) to identify more with a moderate protest group and identify less with a radical flank. Then, we explored how this level of identification translates into support for a moderate protest group, and lack of support for a radical flank.

What did the researchers do and find?

We conducted two experiments in which participants read (fictitious) newspaper articles about two protest groups who used a mix of nonviolent and violent actions. We assessed the difference in support for the moderate group (nonviolent) compared with when a radical flank (violent) was or was not present (when no radical flank was present another moderate group was present instead). We also assessed whether the radical flank lost support when directly contrasted with a moderate group, compared with when another violent group was present. We measured public support by asking participants if they would donate money to the group or join their protests. We found that the presence of a radical flank resulted in an increase in identification and public support for the moderate group, and a decrease in identification and support for the radical group. However, the strength of these effects varied by context. In one study, the moderate group especially were evaluated more favorably and received more public support; in the other study, primarily the radicals were judged more harshly and lost support. In this study, we also found that participants who were more sympathetic towards the pro-environmental aims of the groups reacted more strongly to the chosen tactics of each protest group.

What do these findings mean?

Our research found that the perception and evaluation of one protest group was influenced by the presence of other protest groups. As such, within the same pro-environmental movement, contrasting radicals and moderates with one another was powerful enough to influence if a group was treated more favorably or judged more harshly.

Specifically, the contrast between the groups led observers to feel more similar to the moderate protest group and, thus, support them more, whereas the radical protest group lost identification and support. Moreover, the strength of support depended on how much observers already sympathized with the movement's cause. This study showed that the presence of a radical flank has causal effects on the movement. This suggests that activists might benefit from developing a contextual understanding of their own group's role within the movement they are a part of, and use this strategically to gain public support.

In 2017, Ruby Montoya and Jessica Reznicek confessed to destroying machinery and damaging the Dakota Access oil pipeline, causing millions of dollars in property damage. Montoya justified their actions: “You may not agree with our tactics, but you can clearly see their necessity in light of the broken federal government and the corporations they represent” (Shiple, 2021). Similarly, environmental activists in the US have used radical tactics like civil disobedience since the 1970s, including blocking roads or destroying buildings (Brown, 2021). However, activists and scholars alike pose the question whether such radical groups, referred to as radical flanks, are a curse or a blessing in gathering public support for the environmental movement.

A radical flank is defined as a group that is more radical than the movement’s moderate body in regards to their (1) tactical choices, (2) political demands, or (3) beliefs, choice of words, and openness for compromise (Chenoweth & Schock, 2015). So far, researchers have not yet reached a consensus if the presence of a radical flank has mostly positive or negative effects for the movement (Belgioioso et al., 2021; Haines, 2013). Generating public support is a key goal of social movements, and is especially relevant for environmental movements. A key part of the process of building support is increasing observers’ identification with the protesters (Agostini & van Zomeren, 2021; Feinberg et al., 2020). Thus, we suggest the moderate group might benefit from the contrast with more extreme tactics, as it makes it easier for people to identify with them, leading to an increase in support for the moderates (Simpson et al., 2022). In contrast, observers might distance themselves from the radicals, who would then lose support. We test these hypotheses experimentally in two studies by randomly assigning participants to read about protests that did and did not have radical flanks and measuring their responses.

The Need for a Psychological and Experimental Perspective

An experimental approach is necessary because the literature provides mixed results as to when *radical flank effects* (RFE) are positive or negative for a social movement, in part because of the variety of contexts, methods employed, and outcomes examined by scholars. The investigation of RFEs began with primarily qualitative research, including case studies, interviews, and theory-building work, revealing the complex nature of this phenomenon (Barkan, 1979; Downey & Rohlinger, 2008; Ellefsen, 2018; Elsbach & Sutton, 1992; Freeman, 1975; Haines, 1984, 1988; Hoffman & Bertels, 2012; McCammon et al., 2015). Only in recent years, scholars have shifted to using more quantitative methods to further examine RFEs.

Several studies identified favorable effects: Empirical evidence focusing on the outcome of campaign progress identified positive RFEs (Belgioioso et al., 2021; Tompkins, 2015), and an insignificant RFE (Chenoweth & Schock, 2015). Furthermore, a radical campaign against fossil fuels had a positive influence on the media framing of the climate debate (Schifeling & Hoffman, 2019). During the Black Lives Matter protests in 2020, conservatives were predicted to express more support for the key policy goals of the protesters if a mix of nonviolent and violent protests occurred nearby (Shuman et al., 2022). Moreover, the first experimental study that focused on RFEs found that the moderates gained public support if a radical flank was present (Simpson et al., 2022).

However, there is also evidence pointing to harmful effects of radical flanks. An observational study examining the outcome of public discourse found a *negative* shift in centering themes of “social control” instead of “civil rights” when violent protests were present (Wasow, 2020). Similarly, citizens’ voting behavior appears to be affected negatively by radical methods, leading more Whites to vote for the Republican party due to radical flanks fighting against racism (Wasow, 2020). Furthermore, the Green Party received fewer electoral votes if environmental sabotage occurred nearby (Farrer & Klein, 2019). Moreover, a study about the anti-austerity protests in Barcelona found that an unexpected riot reduced support for the movement (Muñoz & Anduiza, 2019).

The mixed results of these studies reveal the complexity of RFEs. To this end, we aim to identify influencing factors of RFEs by adding both methodological and theoretical expansions. Methodologically, we will use (1) an experimental design and (2) focus on the outcome of public support. An experimental approach offers more control and the ability to test causal relationships. To our knowledge, there is only one quantitative experimental study about RFEs (Simpson et al., 2022), revealing a clear methodical research gap.

One reason for the conflicting findings on RFEs are the diverse outcome variables used. Thus, clarity about RFEs requires a precise definition of the outcome: we focus on public support for the movement. In the present study, support refers to the intention to participate in protests, contribute financially, and share posts on social media. Measuring public support for the movement has been a frequent instrument in psychology to identify the effectiveness of protesters’ methods (Muñoz & Anduiza, 2019; Simpson et al., 2022; Teixeira et al., 2020; Thomas & Louis, 2014). The creation of a public momentum appears to be an important tool for social movements to make change happen (Burstein, 2003; Burstein & Linton, 2002; Chenoweth, 2021; Chenoweth & Stephan, 2011; Louis, 2009). Therefore,

gaining a better understanding of RFEs on public support can contribute to key debates in the literature.

Radical Flank Effects on Support for Moderates and Radicals

Our studies expand the results of previous research by (1) examining identification with the social movement as a psychological driver of support, (2) expanding on the idea that RFEs are driven by contrasts by also including comparisons with an entirely violent movement and (3) considering the observers' levels of sympathy for the movement's cause.

First, we suggest that the direct contrast between radicals and moderates will cause people to identify more strongly with the moderate group (Simpson et al., 2022). While some of the literature indicates that moderates might face reduced public support when accompanied by radical groups (Chenoweth & Schock, 2015; Muñoz & Anduiza, 2019), we suggest that moderates will benefit from the direct contrast via identification. When creating shared social identities, individuals distinguish between ingroups and outgroups, favoring the ingroups (Tajfel & Turner, 1979; Turner et al., 1987). This mechanism to self-categorize and prioritize the ingroup is so strong that even completely arbitrary groups, (e.g., created based on preferences for certain paintings), can lead individuals to identify with the group to which they were assigned (Tajfel et al., 1971). We believe the contrast between the moderates and radicals creates a similar dynamic. Prior research has found that people identify more strongly with groups showcasing nonviolent norms and identify less with violent groups (Feinberg et al., 2020). Therefore, the contrast between both groups could amplify this effect. The presence of a radical flank could lead observers to identify even more with the moderate group as they feel more similar to them (Simpson et al., 2022).

So far, researchers have only examined the contrast effect on the moderate group, which was positive for the social movement (Simpson et al., 2022). Our study design extends this by also considering the contrast effect on the radical flank. Specifically, we included an additional comparison condition describing a social movement in which all activist groups use violent methods. This allows us to compare to what extent the radical flank is perceived differently when it is in contrast with a more moderate group. We hypothesize that due to the contrast with the moderate faction, the radical flank will be more harshly judged and observers will identify even less with the radicals. This enables us to identify potential positive and negative contrast effects that lead to A) a shift in support *towards the moderate flank* so that support is higher than it would be if the movement was entirely nonviolent, but also B) a shift in support *away from the radical flank* so that support is lower than it would be if the movement were a violent one.

This contrast in identification, we believe, will translate into support for the activist group. Higher levels of shared identification should lead to increased public support and mobilization (Feinberg et al., 2020; Gulliver et al., 2021; Lizzio-Wilson et al., 2022; Teixeira et al., 2020). Feinberg and colleagues (2020) found that when people were randomly assigned to read about moderate or radical protesters, they identified with the moderate protesters more and this led them to give more support to the moderates. Large-scale meta-analyses revealed shared identities as one of the central reasons why people would join and support collective action (Agostini & van Zomeren, 2021; van Zomeren et al., 2008). This effect has also been found in the context of environmental activism (Fielding et al., 2008; Fielding & Hornsey, 2016), and observers' reactions to different types of protest actions (Feinberg et al., 2020; Lizzio-Wilson et al., 2022). Finally, a recent experimental study about RFEs also found that observers identified more strongly with the moderates which led to higher public support for them (Simpson et al., 2022). We therefore expect that higher levels of identification with the protesters increases support and vice versa.

Moving beyond this general expectation, we suggest these processes depend on the observers' sympathy for the movement's cause. Scholars have increasingly called attention to the importance of considering various target audiences (Gulliver et al., 2021), which are affected differently by protest tactics (Muñoz & Anduiza, 2019; Shuman et al., 2021, 2022). For example, Shuman and colleagues (2021) showed that nonnormative nonviolent action is especially effective in swaying the opinion of resistant observers towards supporting the political goals of the social movement, but this effect did not apply to sympathizers. We suggest the RFEs may only be relevant to people who are already somewhat sympathetic to the movement and the movement's advocated changes for two main reasons. First, since our outcome is public support in terms of intention to participate in protests, political opponents would likely not directly support the movement regardless of its tactical choices. Second, sympathizers are more likely to identify with the protesters because they generally share their opinions (Bamberg et al., 2015; McGarty et al., 2009), therefore the strength of their identification is more likely to be affected by the presence of a radical flank. Thus, the contrast between the radicals and the moderates drives sympathizers to show greater support for the moderate group and less for the radicals.

Hypotheses

We hypothesize that the moderate group benefits from the direct, situational comparison and will gain support (Hypothesis 1a) because of increased identification (Hypothesis 2a). Conversely, the radical flank will lose support (Hypothesis 1b) and

identification (Hypothesis 2b), i.e. identification will mediate the RFEs on support (Hypothesis 3a/b). We further test whether these effects are moderated by prior levels of sympathy for the movement's cause, with the hypothesis that such effects will be primarily relevant for sympathetic audiences (see conceptual model Figure S4 in supplementary information).

We test these hypotheses across two studies, one in the UK and the second in the US, both in the context of environmental movements addressing climate change. In both experiments, the radical flank is defined by its use of more radical methods, rather than by more radical demands. However, we were unable to fully test the moderation hypothesis in Study 1 because of an extremely skewed distribution on our measure of sympathy with the environmental movement (see more details below). Thus, we only test the moderation hypothesis in Study 2. Due to the fact that Study 2 examines the potential moderation of the effect established in Study 1, we chose to present the studies in this order even though they were largely conducted in parallel (data collection for Study 2 actually took place slightly before data collection for Study 1).¹

In both studies, participants were randomly assigned to one of three conditions: The *nonviolent condition*, the *violent condition* and the *radical flank condition*. They each read one fictitious newspaper article introducing two protest groups, the *main group* and the *flank group* (Table 1). In the nonviolent condition, both groups used nonviolent methods (e.g. peaceful protests). In the violent condition, the main group and the flank group both employed violent methods (e.g. escalated demonstrations, or sabotage). Finally, in the radical flank condition, the main group is the moderate group using nonviolent methods, and the flank group is the radical flank using violent tactics. To determine whether the dynamics of the radical flank condition change the perceptions of both groups, we will compare the moderate group with the main group in the nonviolent condition – because both groups are described with the same words in the manipulation. And we will compare the radical flank with the flank group in the violent condition – since they are both described with the same words. Thus, all differences in perception arise only from the specific contrasts in the dynamics of the radical flank condition.

¹ Both studies were conducted as student projects. While Study 1 was conducted in November 2021, and Study 2 in July 2021, we have decided to present them in the reverse order for two reasons. First, Study 1 was not conducted as a follow-up study to Study 2. Their design was largely conducted in parallel and by the time Study 1 was run, Study 2 had not been fully analyzed. That being said, we had already drawn some design conclusions from the early results of Study 2, which were implemented in Study 1 to create more nuanced hypotheses. Second, since the findings of Study 2 primarily highlight a boundary condition on the effect observed in Study 1, we felt it was clearest to present the studies in this order.

Table 1

Description of the groups in each condition

Condition	Main Group <i>The bigger group that is described first in the article</i>	Flank Group <i>The smaller group that is described second in the article</i>
	Comparison A:	
Nonviolent condition <i>Both groups use nonviolent methods</i>	Nonviolent main group <i>Comparison group of the moderate group</i>	Nonviolent flank group
		Comparison B:
Radical flank condition <i>One group uses nonviolent methods, one violent methods</i>	Moderate group <i>Described with the same words than the nonviolent main group</i>	Radical flank <i>Described with the same words than the violent flank group</i>
Violent condition <i>Both groups use violent methods</i>	Violent main group	Violent flank group <i>Comparison group of the radical flank</i>

Note. Overview of the different groups and their names in each condition. The groups that are outlined together are the comparison groups because they are described with the same words in the article. *Comparison A* will be used to test hypotheses 1a, 2a, 3a (*Route A*) and *comparison B* will be used to test hypotheses 1b, 2b, 3b (*Route B*).

Study 1

Participants

As pre-registered and based on a power analysis², we recruited 535 participants from the UK via the online research panel, Prolific. As pre-registered, participants who spent less than 15 seconds reading the article, failed the attention checks, failed the reading check questions, had too many identical responses and completed the study more than once were removed. The final sample was $N = 485$ ($M_{\text{age}} = 40.80$, 67.80 % female, 47.50 % conservative, 22.90 % moderate, 20.20 % liberal). Further information about the exclusion of participants can be found in the supplementary information (see p. 1).

Materials and Procedure

Participants were invited to take part in a study that observed their attitudes and perceptions towards an environmental movement. After the participants consented to the online survey, they were randomly allocated into one of the three conditions: *nonviolent*

² The pre-registration can be viewed here https://osf.io/z5d4s/?view_only=2ca93d47f50341d2aafd774fb5d51d04 and details of the power analysis are presented in the supplementary information (p. 1).

condition, radical flank condition, or violent condition. In each condition, the participants were introduced to the key issue: the concerns of some surrounding the environmental impact of consuming animal products. Next, they each read a fictitious newspaper article which described a social movement protesting against a (fictional) university's decision to reduce the number of green food products at catered events. After briefly being introduced to the conflict at hand, the participants read short descriptions about the protest actions of two university-based groups, *main group (PlanetVeg)* and *flank group (SuperGreens)*.

In the nonviolent condition ($n = 165$), protestors in the *nonviolent main group* held a peaceful demonstration and sent an email to staff and students at the university, and protestors in the *nonviolent flank group* organized a peaceful demonstration and distributed a petition to staff and students. On the other hand, in the violent condition ($n = 166$): the *violent main group* held a forceful demonstration and occupied the University canteen to verbally and physically harass anyone who was eating meat. This caused one person who was in the canteen at the time to take some time away from the university. Further, the *violent flank group* organized a demonstration and distributed a petition. They verbally and physically harassed anyone who showed a lack of interest in the petition, and the demonstration injured a security guard. Finally, in the radical flank condition ($n = 154$), the *main group* was nonviolent (*PlanetVeg*) and the *flank group* was violent (*SuperGreens*). The description of the *nonviolent main group* was identical to the text describing their behaviors in the nonviolent condition, and the description of the *violent flank group* was identical to the text describing their behaviors in the violent condition.

Measures

Participants completed the measures below, for full materials and measures see the supplementary materials.

Manipulation Checks

We measured perceived extremity by asking participants to rate their perception of radicality and violence of the social movements (e.g., “PlanetVeg are radical/violent”, $r = .56$; “SuperGreens are radical/violent”, $r = .68$). All measures in this study used a scale from 1 = *Strongly Disagree* to 7 = *Strongly Agree* if not noted otherwise.

Support for the movement

We measured the support for the movement and the two subgroups with four items each (e.g. “I would participate in a protest of PlanetVeg”), based on the scale of Feinberg and colleagues (2020) regarding both the *main group (PlanetVeg)* ($\alpha = .90$) and the *flank group (SuperGreens)* ($\alpha = .91$).

Identification with the protesters

We adapted three items from Simpson and colleagues (2018) to measure identification with the protesters (e.g. “I feel similar to the protesters”). Participants rated their agreement with these three statements for the *main group* ($\alpha = .94$) and the *flank group* ($\alpha = .93$) separately.

Sympathy for the movement’s cause

We operationalized sympathy for the movement’s cause with four items from the New Environmental Paradigm scale (Dunlap et al., 2000). The identical four items ($\alpha = .88$) have already been used in Schmitt and colleagues (2019) (e.g. “Over-consumption is posing a serious risk to humankind and life on planet earth”).

Demographic questionnaire

Participants completed a demographic survey including items about age, gender, political ideology, and current or achieved level of education.

Results and Discussion

Analysis Strategy

We used R Studio Version 4.2.0 (R Core Team, 2021) for the following analyses. The present study focused on a slight adaptation of the conceptual model (see supplementary materials Figure S4) found in the pre-registration. In this model, resistance to social change moderated the radical flank effect on support. However, our sample was highly supportive of social change (only 6.8% of participants scored at or below the midpoint of the scale, see supplemental materials Figure S1). We did test for moderation, and we present this in the supplementary materials (see p.10), but the observed restriction of range in the *sympathy for the movement’s cause* variable does not offer a good test of this idea. Thus, in this study we only report the pre-registered hypotheses regarding potential main effects of the radical flank and not the hypotheses about moderation. When examining RFEs, it is only relevant to compare each group in the radical flank condition with the other condition in which the same group’s behavior is identical. Thus, when testing the potential gain in support for- (Hypothesis 1a) and identification with (Hypothesis 2a) the moderate group, we focused on the comparison between the nonviolent and radical flank conditions. This is because the group had identical peaceful actions in these conditions. When testing on the potential loss in support for- (Hypothesis 1b) and identification with (Hypothesis 2b) the radical flank, we focused on the comparison between the radical flank and violent conditions. This is because the group used identical violent methods in both these conditions. We further predict that identification mediates support, thus higher levels of identification lead to higher support for

the moderate group (Hypothesis 3a) and lower levels lead to lower support for the radical flank (Hypothesis 3b).

Manipulation Checks

Participants rated the protest groups very differently depending on the condition (see Table 2 and Figure 1). The *main group* were perceived as most extreme (p 's $< .001$, d 's > 2.31) in the violent condition compared to both other conditions. However, if we compare the nonviolent and the radical flank condition, in which participants read the identical text about the *main group*, there was a small difference found in terms of extremity, ($p = .041$, $d = 0.25$). Comparing the nonviolent condition with both other conditions revealed that participants perceived the *flank group* as significantly less extreme (p 's $< .001$, d 's > 3.73) than in both other conditions. Participants in the violent and radical flank conditions read identical texts about the *flank group* and no significant difference was found in terms of perceived extremity ($p = .433$, $d = 0.09$).

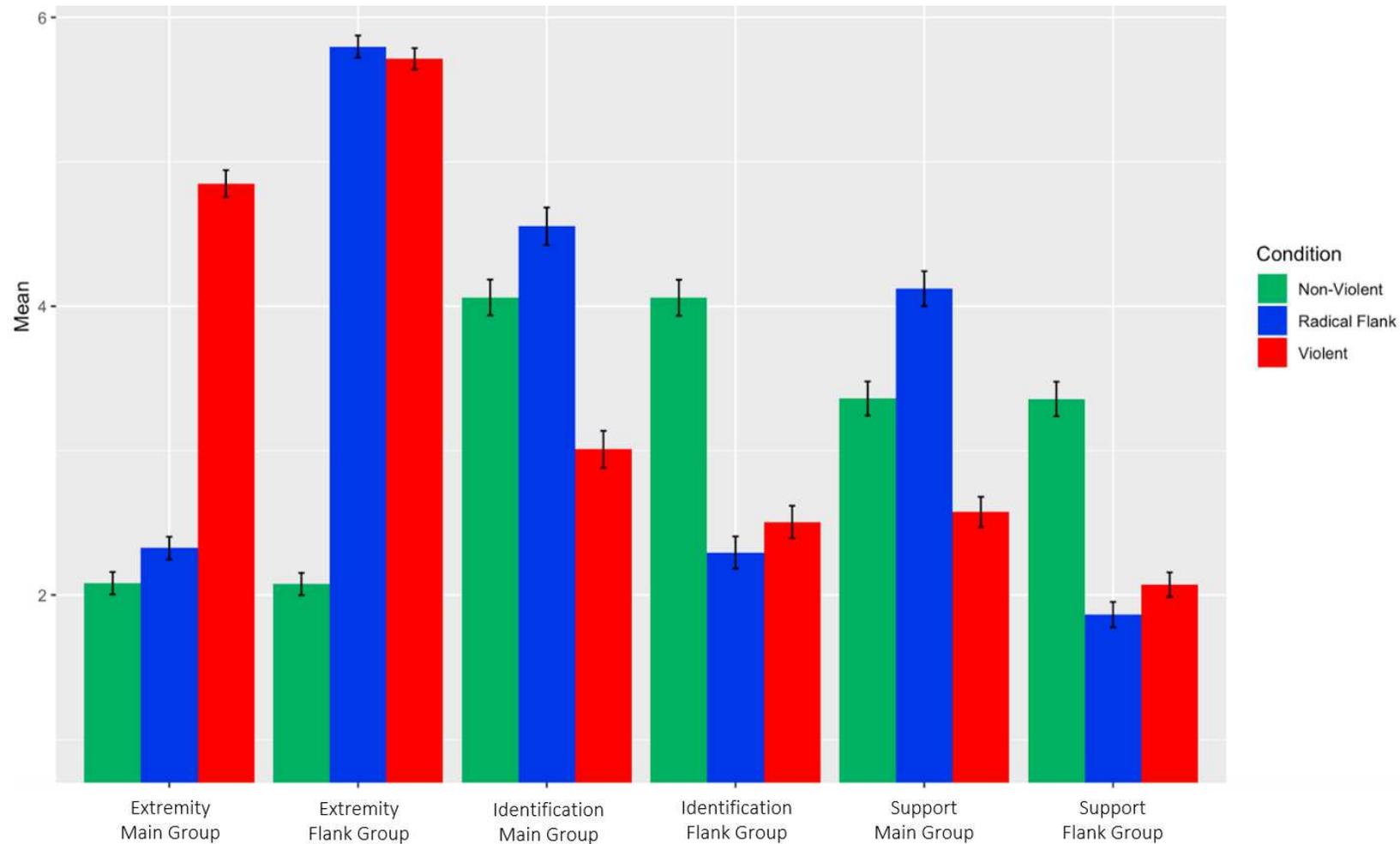
Hypothesis 1: The (a) moderate group benefits in terms of public support, while (b) the radical flank loses.

In support of Hypothesis 1a, support for the *main group* was significantly higher in the radical flank condition, compared to the nonviolent condition ($p < .001$, $d = 0.50$), though participants read the exact same text about this movement and the only difference between these two conditions was whether the other protest movement was violent. We did not find evidence to support Hypothesis 1b, however. There was no statistically significant difference in support for the *flank group* between participants in the radical flank and violent conditions ($p = .140$, $d = 0.19$).

Table 2*Means, standard deviations, F-values, and correlations*

Variable	<i>M (SD)</i>			<i>F</i>	1	2	3	4	5	6
	Nonviolent	Radical Flank	Violent							
1. Extremity <i>Main Group</i>	2.08 (0.99) ^a	2.32 (0.97) ^b	4.85 (1.19) ^c	$F(2, 482) = 343.3,$ $p < .001$	-					
2. Extremity <i>Flank Group</i>	2.08 (0.99) ^a	5.80 (0.95) ^b	5.71 (0.95) ^b	$F(2, 482) = 789.0,$ $p < .001$.50**	-				
3. Identification with <i>Main Group</i>	3.01 (1.66) ^a	4.55 (1.61) ^b	4.06 (1.59) ^c	$F(2, 482) = 38.40,$ $p < .001$	-.37**	-.14**	-			
4. Identification with <i>Flank Group</i>	4.06 (1.60) ^a	2.29 (1.38) ^b	2.51 (1.44) ^b	$F(2, 482) = 68.91,$ $p < .001$	-.22**	-.51**	.64**	-		
5. Support for <i>Main Group</i>	3.36 (1.52) ^a	4.12 (1.50) ^b	2.57 (1.34) ^c	$F(2, 482) = 45.28,$ $p < .001$	-.35**	-.09	.82**	.50**	-	
6. Support for <i>Flank Group</i>	3.36 (1.54) ^a	1.86 (1.10) ^b	2.07 (1.09) ^b	$F(2, 482) = 66.78,$ $p < .001$	-.22*	-.52**	.51**	.84**	.59**	-

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Superscripts indicate which means significantly differ. * $p < .05$. ** $p < .01$.

Figure 1*Descriptive Results Study 1*

Note. Means and error bars (reflect 95% confidence intervals) for the *main group* (*PlanetVeg*) and the *flank group* (*SuperGreens*) in each condition (Nonviolent condition = 165, Radical Flank condition = 154, Violent condition = 166, total $N = 485$).

Hypothesis 2: Participants (a) identify more with the moderate group, while (b) they identify less with the radical flank.

In support of Hypothesis 2a, identification with the *main group* was significantly higher in the radical flank condition compared to the nonviolent condition ($p = .007$, $d = 0.31$). We did not find support for Hypothesis 2b, however. There was no statistically significant difference in identification with the *flank group* between participants in the radical flank and violent conditions ($p = .202$, $d = 0.15$).

Testing the Full Mediation Model 1

We tested the full mediation model in *lavaan* in R (equivalent to Model 4, Hayes, 2018). We created a dummy variable using the radical flank condition as the reference condition (coded as 0, the other conditions as 1). As a result, we compared the radical flank with the nonviolent condition (*Route A*) and the radical flank with the violent condition (*Route B*). *Route A* analyzes identification and support for the *main group*, the moderate group in the radical flank condition. *Route B* analyses identification and support for the *flank group*, the radical flank in the radical flank condition. Before running the analyses, we checked the assumptions for regression analysis³. These were not perfectly met, so we performed bootstrapped significance tests.

Route A: Moderate Group

We focused on the differences between the radical flank and the nonviolent condition (see *Route A*, Figure 2). Participants in the radical flank condition had a higher level of identification with the *main group*, leading to increased support for this group in the radical flank condition. Furthermore, the indirect effect of condition via identification was significant, $b = -.35$, $SE = .13$, $p < .05$. Thus, identification with the *main group* was a significant mediator of support for the group.

Route B: Radical Flank

There was no effect of condition for the comparison between the radical flank and violent conditions in terms of identification with ($p = .200$) and support for ($p = .445$) the *flank group*, so we did not test for mediation.

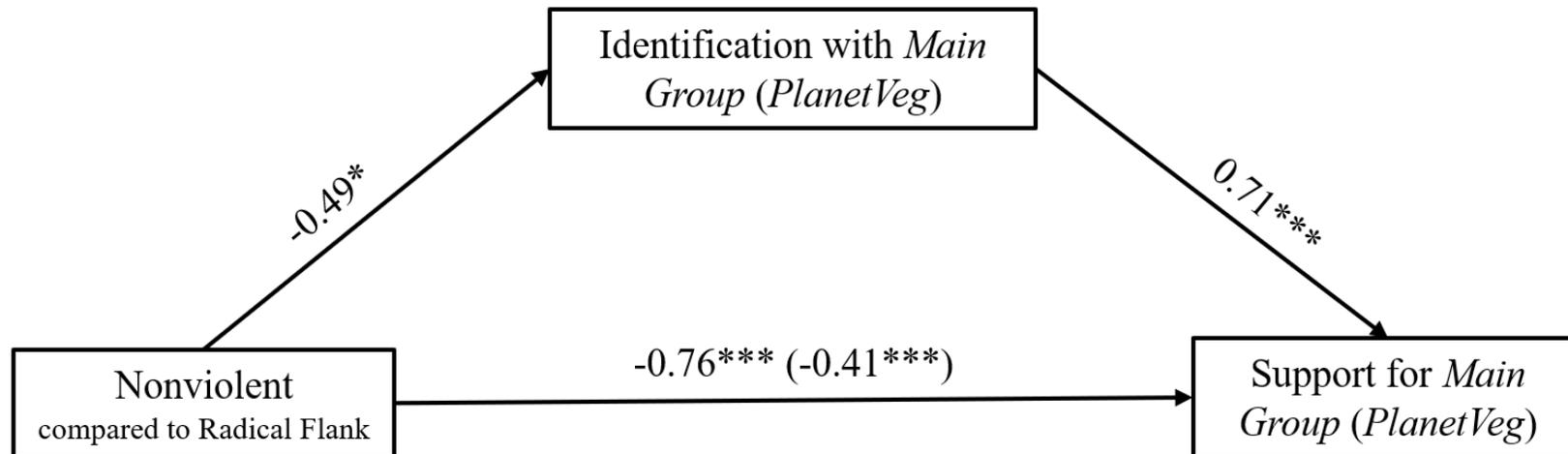
In sum, Study 1 found that the presence of a radical flank benefited the moderates, more so than it harmed the radicals, in terms of greater public support and stronger identification with the group. Mediation analysis showed that the effect on support was mediated by identification with the *main group*. In Study 2 we further investigated the

³ For more details see supplementary materials (see Figures S10 – S13).

influence of observers' sympathy towards the movement's cause on their reactions towards radical flanks. Furthermore, Study 2 featured a US context rather than a UK context to allow further generalization.

Figure 2*Model 1****Route A: Moderate Group***

How did observers rate the main group in the nonviolent condition compared to the radical flank condition?



Note. Bootstrapped Route A (Moderate Group) whereby the radical flank condition is the reference condition (coded as 0, the other as 1). ($p < .001$).
 $^* p < .05$. $^{***} p < .001$

Study 2

Study 2 tested the same hypotheses as Study 1 and we also expected to find stronger effects for sympathizers because resistant participants are unlikely to support the movement no matter which tactics the activists chose (Hypotheses 1a/1b). Sympathizers will identify more strongly with the moderate group (Hypothesis 2a), while they will identify less with the radical flank (Hypothesis 2b). Further harming the radicals, lower levels of identification will result in lower support (Hypothesis 3b), while higher levels will lead to higher support benefiting the moderates (Hypothesis 3a).

Method

Participants

As pre-registered, 535 participants were recruited via MTurk. We followed the pre-registered exclusion criteria and kept the 455 participants who passed the bot check, the attention checks, and the reading checks, who did not start the survey multiple times, spent more than 15 seconds reading the manipulation article, and who did not give an extremely high number of consecutive identical responses relative to their condition⁴ ($M_{\text{age}} = 40.15$, 59.78 % female, 73.85% White, 36.92 % conservative, 20.22 % moderate, 42.86 % liberal). Further information about the exclusion and the sample can be found in the supplementary information (see p. 18).

Materials and Procedure

In all three conditions, participants read a different newspaper article about a social movement in the US, specifically Uintah County, protesting for a ban on fracking. In each article, the movement split up due to unspecified tactical disagreements and divided into two subgroups, namely *main group* (*Green Uintah*) and *flank group* (*Stop Fracking*). After a brief introduction to the conflict, both groups are introduced, each performing three acts of protest.

In the nonviolent condition ($n = 149$), the activists of *the nonviolent main group* organized a peaceful demonstration, wore protest t-shirts during a speech by the mayor, and hung anti-fracking banners in front of local fracking companies. *The nonviolent flank group* also organized a demonstration, held a gathering in front of the mayor's house and led a march to a fracking construction site. In contrast, in the violent condition ($n = 150$): *The violent main group* organized a demonstration that escalated into a riot, disrupted a speech by the mayor by throwing objects, and burned down two cars of a local fracking company. *The*

⁴ In the pre-registration, we erroneously stated that we will measure the number of consecutive identical responses only across the dependent variables. However, logically, we wanted to include the responses across all applicable variables, thus, for this exclusion criterium we slightly deviated from the pre-registration.

violent flank group's demonstration also escalated into a violent riot, they vandalized the mayor's house, and destroyed company property at a fracking construction site. Finally in the radical flank condition ($n = 156$), *the moderate group* was nonviolent and *the radical flank* violent. The description of *the moderate group* was identical to the text of *the nonviolent main group* in the nonviolent condition. And the text of the *radical flank* was identical to the description of the *violent flank group* in the violent condition.

Following the article and the reading comprehension checks, participants answered several questions about their perceptions of the overall movement and the two groups separately. Furthermore, participants completed measures about their general attitudes, some exploratory measures, and a demographic survey⁵.

Measures

Manipulation Checks

We used almost identical Manipulation Checks as in Study 1, however, we measured the perceptions of *nonviolence* instead of violence. In total, four items were used, asking about the perception of *the main group (Green Uintah)* ($r = 0.63$) and *the flank group (Stop Fracking)* ($r = 0.65$) separately. For all applicable measures, participants also rated their perception of the overall anti-fracking movement (see supplementary information p.21).

Identification with the protesters

We used the same items as in Study 1. Participants rated their agreement and disagreement with the three statements for *the main group* ($\alpha = .95$), and *the flank group* ($\alpha = .96$).

Support for the movement

We used the same items as in Study 1. Participants indicated their extend of support for *the main group* ($\alpha = .91$), and *the flank group* ($\alpha = .92$).

Sympathy for the movement's cause

We used the same items as Study 1 ($\alpha = .93$).

Demographic questionnaire

Participants completed a demographic survey including items about age, gender, political ideology, and employment.

⁵ All materials are available at the project's Open Science Framework Page https://osf.io/z5d4s/?view_only=2ca93d47f50341d2aafd774fb5d51d04.

Results and Discussion

Analysis Strategy

We used the R Version 4.1.0 (R Core Team, 2021) for all analyses. The present study focused on an adapted version of *Model 2* in the pre-registration. Like in Study 1, we split the model into two parts: *Route A* (Hypotheses 1a, 2a, and 3a) and *Route B* (Hypotheses 1b, 2b, and 3b) which are based on the *Comparisons A* and *B* (see Table 1). Although we pre-registered that we wanted to test the distinct perceptions of both groups, we also asked about and planned to focus our analyses on perceptions of the “overall movement” (see supplementary materials p. 21). However, the overall measures were unaffected by the manipulation (see Figures S23 and S24 in the supplementary materials). In retrospect this may not have been surprising because we did not explicitly describe an overall movement in the article, making it difficult for people to understand what we were asking about as they only read about two specific movements and not one overall movement. Further explanation about the reason for the deviation of the preregistered model can be found in the supplementary information (p. 25).

We first analyzed the manipulation check questions, and then examined the descriptive statistics. Next, we tested the main hypotheses and, finally, tested both routes of the model. Just as in Study 1, only one of the possible comparisons is relevant for each route in regards to RFEs because only in one comparison both groups are described with the identical text (A) *Main group* in the nonviolent and radical flank condition; B) *Flank group* in the violent and radical flank condition). All differences between these conditions are the direct result of the radical flank dynamic.

Manipulation Checks

Participants rated the protest groups very differently depending on the condition and employed methods (see Table 3). *The main group* was perceived as most extreme (p 's < .001, d 's > 3.18) in the violent condition compared to both other conditions. However, if we compare the nonviolent and the radical flank condition, in which participants read the identical text about *the main group*, there was no significant difference in perceived extremity ($p = .576$, $d = .06$). *The flank group* was perceived as least extreme in the nonviolent condition compared to the other conditions in which violent methods were used (p 's < .001, d 's > 3.11). Although participants read the identical text about *the flank group* in the violent and the radical flank condition, their ratings still revealed a (small) significant difference: *The flank group* was perceived as more extreme ($p = .011$, $d = .29$) in the radical flank condition than in the violent condition.

Descriptive Results

The descriptive results can be found in Table 3. Participants supported *the main group* significantly less in the violent condition compared to both other conditions, in which the protesters employed nonviolent means (p 's < .001, d 's > 0.56). Comparing the nonviolent and the radical flank condition, in which participants read the identical text about *the main group*, revealed no significant difference in terms of support ($p = 0.156$, $d = 0.16$). Overall, the levels of support for *the flank group* were highest in the nonviolent condition compared with the other conditions, in which the group used violent methods (p 's < .001, d 's > 0.51). Moreover, participants supported *the flank group* less in the radical flank condition compared to the violent condition although the text about *the flank group* was identical ($p < .001$, $d = 0.54$).

Hypothesis 1: For sympathizers, (a) the moderate group benefits in terms of public support, while (b) the radical flank loses.

We tested Hypothesis 1a by conducting a regression predicting support for *the main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, and the interaction terms between them (see Table 4). The interaction between sympathy for the movement's cause and the dummy variable referring to the difference between the radical flank and the nonviolent condition was not significant ($p = .107$), but the interaction between sympathy and the dummy variable referring to the difference between the radical flank and the violent condition was significant ($p = .001$). The simple slopes (see Figure 3) indicated that for sympathizers (+ 1 *SD* on sympathy for the movement's cause), *the main group* gained significantly more support in the radical flank condition than in the nonviolent condition ($b = -0.51$, $SE = .22$, $t = -2.35$, $df = 449$, $p = .019$). For resistant participants, the difference was insignificant ($p = .899$). Comparing the violent condition with the radical flank condition revealed a similar pattern: Sympathizers supported the main group more in the radical flank condition than the violent condition ($b = -1.84$, $SE = .21$, $t = -8.84$, $df = 449$, $p < .001$), whereas for resistant participants this effect was in the same direction but weaker ($b = -0.83$, $SE = .21$, $t = -3.85$, $df = 449$, $p < .001$). As the main group was nonviolent in the radical flank condition, this simple slope comparison primarily indicates that sympathizers were more sensitive to whether the group's tactics were nonviolent or violent.

To test Hypothesis 1b, we ran the same regression model but predicting support for *the flank group* (see Table 4). The interaction between sympathy for the movement's cause and the dummy variable representing the difference between the radical flank and the violent condition was also not significant ($p = .150$), but the interaction between sympathy and the

dummy variable referring to the difference between the radical flank and the nonviolent condition was significant ($p = .001$). Simple slopes (see Figure 3) indicate that for sympathizers, the support for the *flank group* was lower in the radical flank condition relative to the violent one ($b = 0.88, SE = .21, t = 4.28, df = 449, p < .001$). We also found a smaller but significant effect for resistant participants ($b = 0.45, SE = .21, t = 2.12, df = 449, p = .034$). Comparing the nonviolent condition with the radical flank condition, again, revealed that sympathizers were again more sensitive to whether the tactics were violent or nonviolent ($b = 2.18, SE = .21, t = 10.21, df = 449, p < .001$) than resistant observers ($b = 1.16, SE = .20, t = 5.78, df = 449, p < .001$).

Table 3*Means, standard deviations, F-values, and correlations of Study 2*

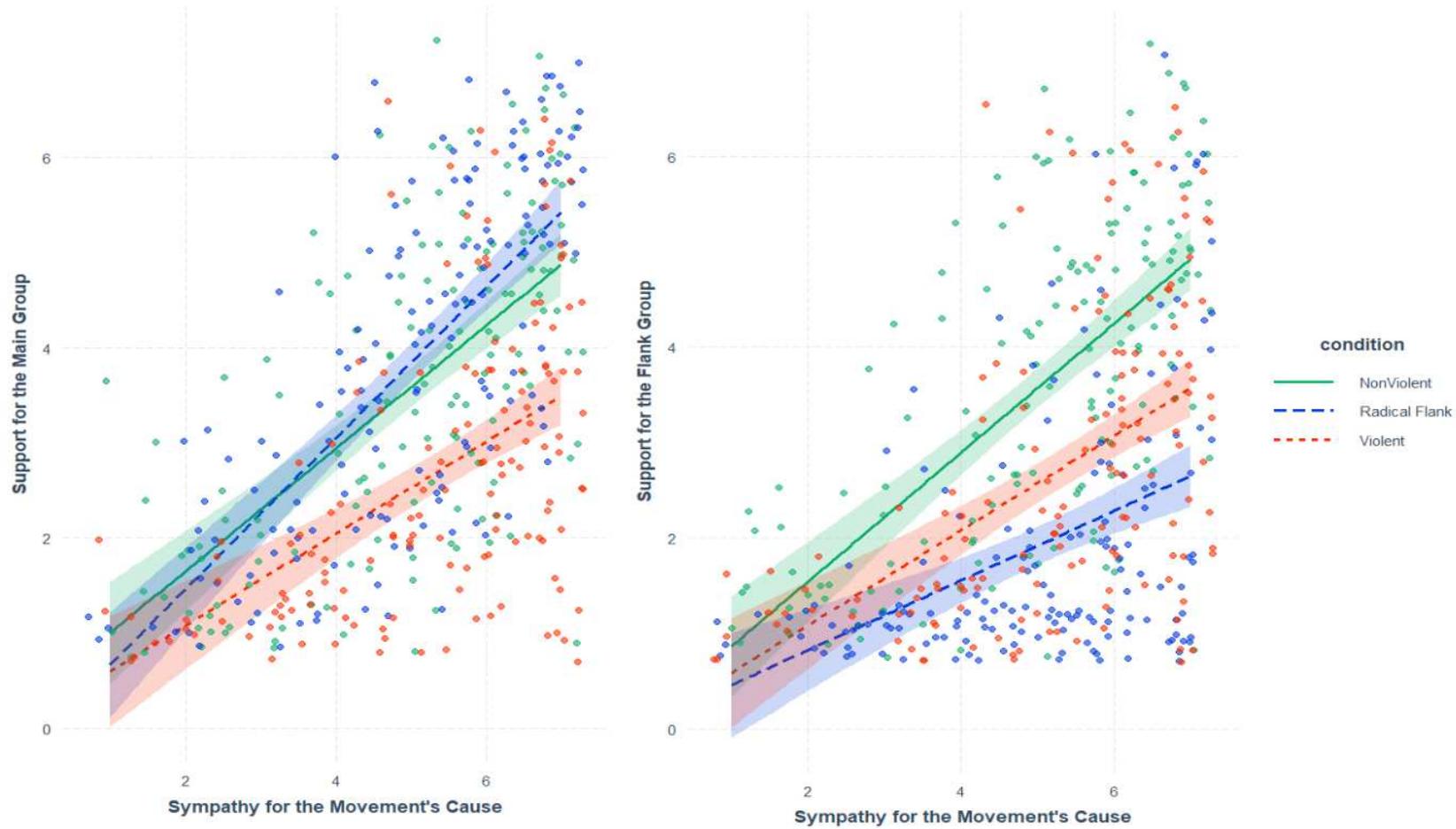
Variable	<i>M (SD)</i>			<i>F</i>	1	2	3	4	5	6
	<i>Nonviolent</i>	<i>Radical Flank</i>	<i>Violent</i>							
1. Extremity <i>Main group</i>	2.33 (1.08) ^a	2.26 (1.04) ^a	5.84 (1.12) ^b	$F(2, 452) = 540.1,$ $p < .001$	-					
2. Extremity <i>Flank Group</i>	2.41 (1.06) ^a	6.11 (1.02) ^b	5.80 (1.12) ^c	$F(2, 451) = 557.4,$ $p < .001$.46**	-				
3. Identification with <i>Main Group</i>	4.19 (1.66) ^a	4.37 (1.73) ^a	2.94 (1.76) ^b	$F(2, 452) = 31.1,$ $p < .001$	-.46**	-.27**	-			
4. Identification with <i>Flank Group</i>	4.16 (1.67) ^a	2.07 (1.43) ^b	2.94 (1.78) ^c	$F(2, 452) = 62.75,$ $p < .001$	-.12**	-.58**	.65**	-		
5. Support for <i>Main Group</i>	3.56 (1.69) ^a	3.83 (1.77) ^a	2.65 (1.53) ^b	$F(2, 452) = 20.78,$ $p < .001$	-.39**	-.26**	.78**	.53**	-	
6. Support for <i>Flank Group</i>	3.54 (1.71) ^a	1.91 (1.33) ^b	2.70 (1.56) ^c	$F(2, 452) = 42.72,$ $p < .001$	-.11*	-.53**	.53**	.83**	.69**	-
7. Sympathy for the Movement's Cause	4.96 (1.67) ^a	4.99 (1.58) ^a	5.26 (1.63) ^a	$F(2, 452) = 1.524,$ $p = .219$	-.07	-.13**	.52**	.45**	.57**	.50**

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Superscripts indicate which means significantly differ. * $p < .05$. ** $p < .01$.

Table 4*Hypotheses 1a and 1b of Study 2*

<i>Predictors</i>	Support for <i>Main Group</i>				Support for <i>Flank Group</i>			
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>
(Intercept)	-0.12	0.34	-0.80 – 0.55	0.719	0.09	0.34	-0.58 – 0.76	0.786
Condition D1: Radical Flank vs. Nonviolent	0.48	0.48	-0.46 – 1.42	0.313	0.09	0.47	-0.84 – 1.02	0.844
Condition D2: Radical Flank vs. Violent	0.24	0.50	-0.74 – 1.22	0.628	-0.00	0.49	-0.97 – 0.96	0.995
Sympathy for the Movements' Cause	0.79	0.07	0.66 – 0.92	<0.001	0.37	0.07	0.24 – 0.49	<0.001
Condition D1 X Sympathy for the Movements' Cause	-0.15	0.09	-0.33 – 0.03	0.107	0.31	0.09	0.13 – 0.49	0.001
Condition D2 X Sympathy for the Movements' Cause	-0.31	0.09	-0.49 – -0.13	0.001	0.13	0.09	-0.05 – 0.31	0.150
Observations	455				455			
R ² / R ² adjusted	0.454 / 0.448				0.425 / 0.419			

Note. Regression analyses of the Hypotheses 1a and 1b

Figure 3*Interaction effect of Hypotheses 1a and 1b of Study 2*

Note. Plotted regressions visualizing the interaction effects. Nonviolent condition = 149, Radical Flank condition = 156, Violent condition = 150, total $N = 455$

Hypothesis 2: Sympathizers (a) identify stronger with the moderate group, while (b) they identify less with the radical flank.

Testing Hypothesis 2a, we conducted a regression predicting identification with *the main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, and the interaction terms between them (see Table 5). Both interaction terms were insignificant (see Table 5).

Next, we examined whether the identification with *the flank group* is influenced by the radical flank dynamic (Hypothesis 2b). Therefore, we conducted the same model but with identification with *the flank group* as the outcome variable (see Table 5). Both interaction terms were significant ($p \leq .050$). The radical flank context significantly decreased the identification with the radical flank compared to a condition in which both groups used violent methods (see Figure 4). This effect was significant for sympathizers ($b = 1.06$, $SE = .22$, $t = 4.71$, $df = 449$, $p < .001$) and close to significance for resistant participants ($b = 0.42$, $SE = .23$, $t = 1.81$, $df = 449$, $p = .072$). Moreover, the interaction focusing on the comparison between the radical flank and the nonviolent comparison revealed that sympathizers ($b = 2.51$, $SE = .23$, $t = 10.81$, $df = 449$, $p < .001$) reacted more strongly towards the chosen tactics than resistant observers ($b = 1.73$, $SE = .22$, $t = 7.90$, $df = 449$, $p < .001$).

Testing the Moderated Mediation Model 2: Route B

Since the previous analyses showed that relevant interactions for *Route A* were not significant (see Hypothesis 2a), we only report *Route B*. Putting these findings together, we tested the moderated mediation (equivalent to Model 8, Hayes, 2022) using the package *lavaan* (Rosseel, 2012) in R (see Figure 5). We checked the assumptions for conducting regression analyses, which were not perfectly met⁶, so we used bootstrapped significance tests. *Route B* examines the effects on identification and support for *the radical flank*.

⁶ The graphs can be found in the supplementary materials (see Figures S33-S36).

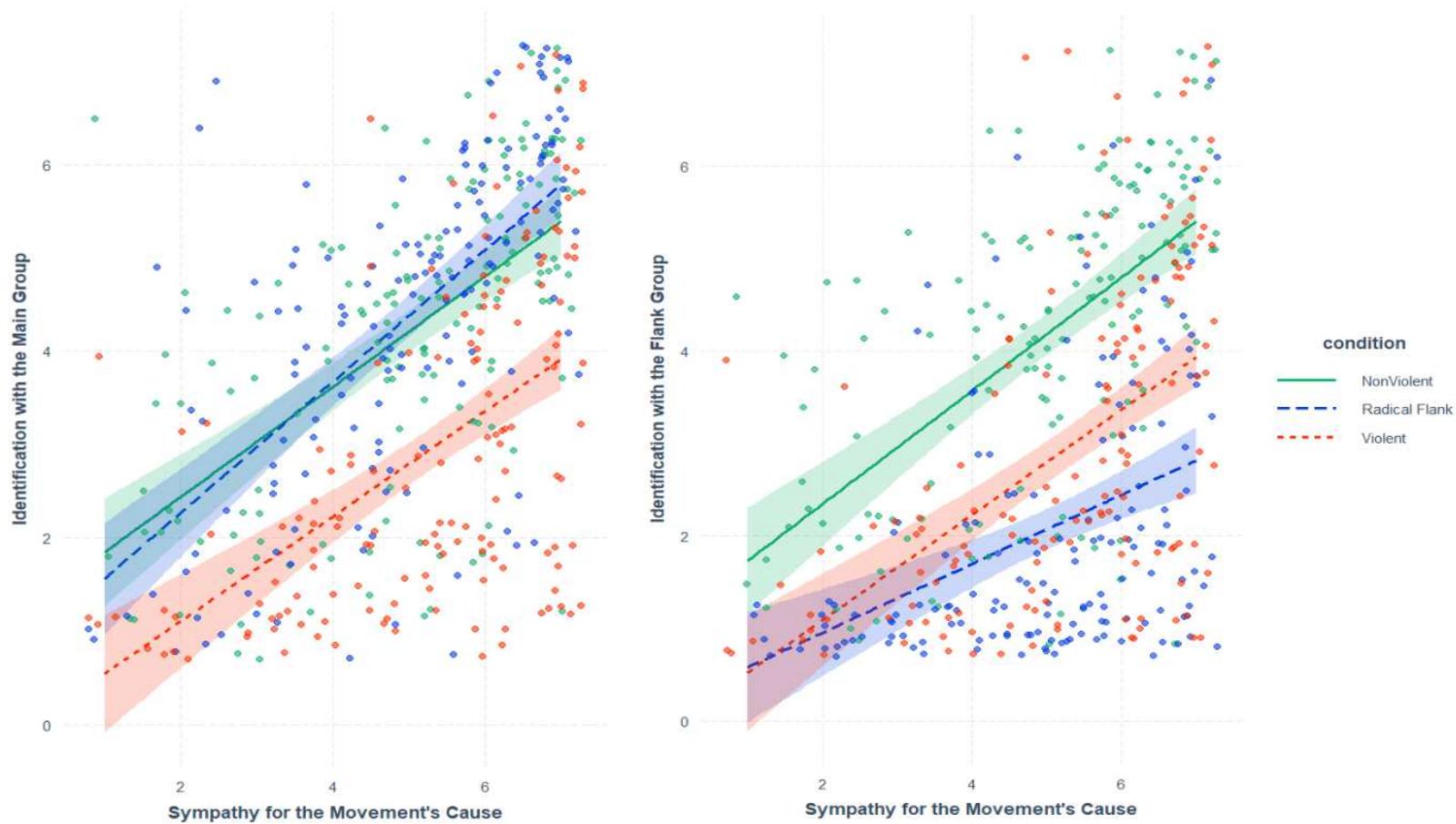
Table 5*Hypotheses 2a and 2b of Study 2*

<i>Predictors</i>	Identification with <i>Main Group</i>				Identification with <i>Flank Group</i>			
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.86	0.37	0.13 – 1.59	0.021	0.21	0.37	-0.52 – 0.94	0.570
Condition D1: Radical Flank vs. Nonviolent	0.40	0.52	-0.62 – 1.41	0.443	0.91	0.51	-0.10 – 1.92	0.078
Condition D2: Radical Flank vs. Violent	-0.87	0.54	-1.93 – 0.18	0.104	-0.26	0.53	-1.31 – 0.79	0.632
Sympathy for the Movement's Cause	0.70	0.07	0.56 – 0.84	<0.001	0.37	0.07	0.23 – 0.51	<0.001
Condition D1 X Sympathy for the Movement's Cause	-0.11	0.10	-0.31 – 0.08	0.253	0.24	0.10	0.05 – 0.43	0.015
Condition D2 X Sympathy for the Movement's Cause	-0.14	0.10	-0.34 – 0.05	0.157	0.20	0.10	0.00 – 0.39	0.050
Observations	455				455			
R ² / R ² adjusted	0.424 / 0.417				0.436 / 0.429			

Note. Regression analyses of Hypotheses 2a and 2b.

Figure 4

Interaction effect of Hypotheses 2a and 2b of Study 2



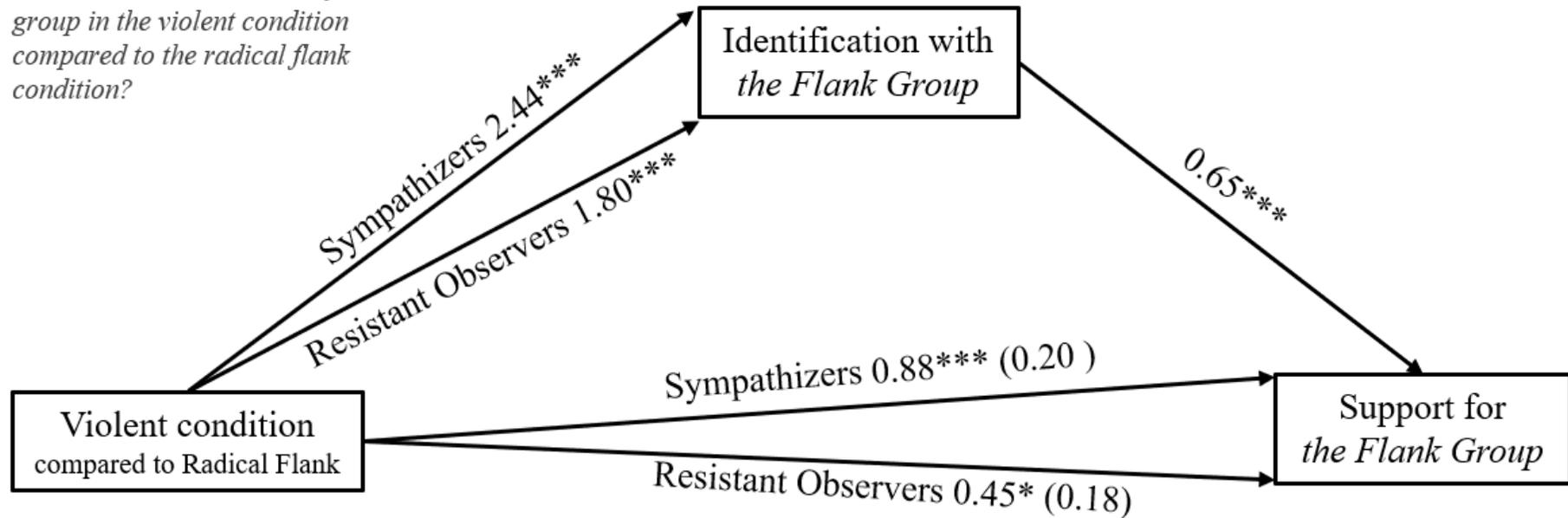
Note. Plotted regressions visualizing the interaction effects. Nonviolent condition = 149, Radical Flank condition = 156, Violent condition = 150, total $N = 455$.

Figure 5

Model 2

Route B: Radical Flank

How did sympathetic observers vs. resistant observers rate the flank group in the violent condition compared to the radical flank condition?



Note. Bootstrapped Route B (Radical Flank) with the radical flank condition as the reference condition (coded as 0, the other as 1). The index of moderated mediation is significant ($p = .049$). * $p < .05$. *** $p < .001$.

We examined the differences between the radical flank and the violent condition (see *Route B* in Figure 5), in which *the flank group* is described with the identical text. Participants in the radical flank condition identified less with *the flank group*. This effect was even stronger for sympathizers. Furthermore, the indirect effect of the condition via identification was significant for both sympathizers ($b = 1.58, SE = .17, p < .001$), and resistant participants ($b = 1.17, SE = .15, p < .001$). The index of moderated mediation also revealed a significant difference between the two indirect effects ($b = 0.41, SE = .21, p = .049$). This means that participants, especially sympathizers, supported *the flank group less* in the radical flank condition and *more* in the violent condition.

In sum, Study 2 found that the radical flank lost support from the direct contrast with the moderate group. Importantly, the magnitude of the effects was moderated by the participants' sympathy towards the environment: Observers who were sympathetic to the movement's cause reacted more negatively towards the chosen tactics of the radical flank and overall, sympathizers reacted more strongly towards the methods of the activists. Although the expected gain in support for the moderates did not quite reach significance, the pattern was observable as a trend – merely limited to sympathizers and much smaller. The simple slopes analyses showed that sympathizers supported the moderate group significantly more than the main group in the nonviolent condition, revealing a positive contrast effect. This leads us to suspect that the overall lack of significance may be due to insufficient statistical power.

Since our reasoning about RFEs was based on the idea that the two groups create a contrast for each other, and we measured all variables regarding these two groups within subjects (i.e. each participant rated both groups), it could be argued that our analyses should take participants ratings of the other group into account. In other words, controlling for support for the flank group while analyzing effects on the main group would give a more accurate indication of how support for this specific group was affected by removing the variance reflecting participants general support for both groups and making the analysis in terms of relative support between the two groups. Therefore, in the supplementary materials we report all analyses with the relevant variables for the other group included as covariates (see Figures S6, S7, and S28). In these analyses, we find the same pattern of results, with some differences. For example, when including covariates in Study 1 and Study 2, we found a positive contrast effect for the moderate group, *as well as* the negative contrast effect for the radical flank in both studies. This is consistent with our hypotheses. However, without the

covariates – as reported in the main text – the contrast effect had a substantially stronger impact on only one of the two groups. Specifically, in Study 1, the contrast effect manifested primarily through the moderate group's gain in support. Yet, in Study 2 the negative effect on the radical flank was stronger.

General Discussion

Across two experiments, we examined whether and how the presence of a radical flank influences the public's support and identification with radicals and moderates. The radical flank dynamic creates a unique situation which is different from either a homogeneously peaceful movement or a completely violent movement. In both studies, the direct comparison between the groups' actions resulted in shifts of identification and support. This offers further evidence for a contrast effect within the dynamic between moderate and radical groups in social movements. However, this contrast effect seems to emerge differently in each context.

In Study 1, the radical flank dynamic led observers to feel closer to the moderates, identifying more strongly with them, and the increased identification resulted in more support. Therefore, the moderate group benefited from the contrast with the extreme group. However, the radical flank did not significantly lose support compared to an entirely violent movement. Conversely, Study 2 revealed the opposite pattern: The contrast affected mainly the radical activists. Their perception was harmed as observers identified less with the radical flank, and showed even lower support than for a violent movement. Moreover, Study 2 additionally found that the magnitude of these effects was dependent on the observers' sympathy levels: Sympathizers were more sensitive to the movement's tactics in general and thus reacted more strongly towards the radical flank dynamic – they supported the radicals even less in the radical flank dynamic. In contrast, sympathizers also supported the moderates more.

When the analyses controlled for attitudes towards the other group (to better isolate the contrast effect, see supplementary materials Figures S6, S7 and S28), they also supported our hypotheses. The contrast affected both groups in both studies: The moderates are perceived more positively and the radicals are judged more negatively. In sum, we found the expected results, although both studies revealed further complexities of the contrast effect.

Implications

The present research fills a gap in the psychological literature, which has mainly focused on reactions towards homogenous protest actions. This is, to our knowledge, only the

second quantitative, experimental study about RFEs (Simpson et al., 2022). Indeed, by the time we conducted our studies (and drawn conclusions), Simpson and colleagues (2022) had not yet published their results. The fact that two different labs tested similar hypotheses with slightly different methods independently from another, but ended up with rather similar results, further strengthens the findings. Overall, the present study expands their research by examining the contrast effect on the radical flank and considering how the effects are particularly important for sympathetic audiences.

The necessity of experimental studies has already been emphasized by several parties (Chenoweth & Schock, 2015; Muñoz & Anduiza, 2019) due to the possibility of reverse causality: Radical flanks could lead to a lower participation in a moderate campaign. However, unpopular campaigns with low participation numbers might push desperate activists to resort to more radical tactics. The results of the present study indicate that a radical flank does *not* lead to lower public support for the moderates but only to lower support for the radical flank.

Moreover, this study emphasizes the importance of group identification in radical flank dynamics. As most prior quantitative studies about RFEs have used aggregate data (for an exception see Muñoz & Anduiza, 2019; Simpson et al., 2022), the present research gathered individual-level data, thus providing an opportunity to study the role of individuals' perceptions and processes in the context of radical flanks. Its results support previous psychological literature, which established identification as an important mechanism in the realm of collective action (Agostini & van Zomeren, 2021; Feinberg et al., 2020; Gulliver et al., 2021; Teixeira et al., 2020; van Zomeren et al., 2008). Moreover, the current research also expands theorizing by demonstrating that the identification with one activist group is tied to the identification with another. Identification is thus context-dependent: If one group is significantly more aligned with the observers' values than the other group, observers identify even more strongly with this group (moderate group) than they would in the absence of a second group, while they disassociate themselves even more strongly from the radical flank.

An overarching lesson for practitioners is the importance of developing a contextual understanding of their own group's role in the broader movement. The perception of one activist group is tied to the perception of other groups, particularly when directly comparing their actions to each other. Therefore, gaining a deeper understanding of the network of actors is crucial (Hoffman, 2009; Hoffman & Bertels, 2012). Depending on their group's role, activists might be able to leverage their positions' advantages, while trying to minimize the

disadvantages. For example, moderates can potentially benefit in terms of public support by highlighting direct comparisons with the radical flank when strategically beneficial for the movement.

Limitations and Future Research

Future research could further advance the literature by overcoming limitations regarding (1) the inconsistency between the Study 1 and 2 results about the direction of the contrast effect, (2) the conclusions about the causal effect of the moderator and (3) only considering public support as an outcome. First, the differing results in Study 1 and 2 raise more questions that should be explored. We found that in Study 1, the impact of the radical flank dynamic manifested in a win for the moderates. However, in Study 2, the effects of the radical flank dynamic were driven by the significant loss in support for the radicals, and the moderates did not significantly gain support (although the simple effect was significant for sympathizers). Therefore, future studies should examine why and when radical flank effects are mainly driven by the changed perception of the moderates or the radicals.

Previous literature suggests that the relationship between moderate and radical groups could influence whether a RFE is positive or negative. However, scholars are divided on whether radical flanks can have a more positive impact when the groups' actions are decoupled from another or when the moderates and radicals interact closely (Downey & Rohlinger, 2008; Ellefsen, 2018; McCammon et al., 2015). In Study 2, we explicitly mentioned that the moderates and radicals had been one group in the past before they split up due to tactical disagreements. In Study 1, we did not mention such a history of both groups. This might have been one factor that has caused the differing results between the studies. In the future, experimental studies could be used to generate and test hypotheses about the relationships between radicals and moderates by comparing scenarios in which radical flanks are distanced from the moderate parties vs. in which the groups cooperate with each other.

Second, there are several limitations regarding the inferences we can draw from the use of our moderator. The limited variance in Study 1 indicates that the scale of Environmental Paradigm (Dunlap et al., 2000) might not sufficiently represent the nuances of the political spectrum of people who are sympathizers to the movement's cause vs. resistant observers. Future studies could explore whether other scales capture this range better. Moreover, the causal influence of the moderator cannot be inferred using the present design. It is possible that the influence we attribute to the moderator actually originates from a

different variable. For example, the moderator also correlates with the age of the participants (see supplementary materials Table S1).

Third, the present study focused on the dependent variable of public support but future research should investigate the trade-offs between various outcomes. Positive and negative RFEs can exist simultaneously (Ellefsen, 2018; Tompkins, 2015). Radical flanks can lead to political progress (Tompkins, 2015) and create media attention for movements (Amenta et al., 2009; Myers & Caniglia, 2004; Sobieraj, 2010). However, the presence of a radical flank is connected to a higher likelihood of repression – against both moderates and radicals (Tompkins, 2015). Additionally, Ryckman (2020) warns that a radical flank could also increase the likelihood of a movement escalation. Future research needs to investigate trade-offs between different outcomes, whereby desired and unwanted results should be equally considered. Besides examining if these outcomes are causally influenced by radical flanks, future studies should ask which combinations of tactics are most effective to create the optimal balance between all relevant outcomes.

Ethics Statement

Study 1 was approved by the Internal Review Board of the second and third author's university and Study 2 was approved by the Internal Review Board of the last author's university. Informed consent was attained by asking participants to continue only if they were willing to participate and if they had read and understood the instructions and information provided. Participants were told that participation was voluntary and that they had the right to withdraw from the study at any time. Upon completion of the study, participants were fully debriefed. The data were anonymized and treated confidentially.

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Supplementary Information Study 1

Protests Demanding Sustainable Action by a University in the UK

Sample

As pre-registered and based on a power analysis, we recruited 535 participants from the UK via the online research panel, Prolific. Data were collected within a single time interval and participants were offered a small financial reward (£1.20) as compensation for the time taken to complete the questionnaire (approximately 10 minutes). Responses were recorded using the Qualtrics software. Anyone who was registered with Prolific at the time and who met the pre-screening requirement, namely that the participant was residing in the United Kingdom (UK), was recruited for the study. This was because the manipulations used in the study described a scenario within the UK.

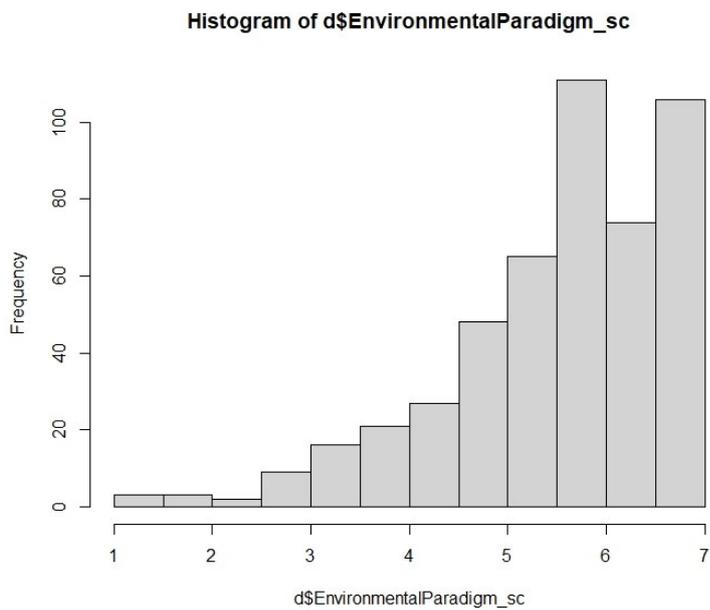
Sample size was based on a power calculation with G*power. In a correlational study (Shuman et al., 2022) that compared people's attitudes in counties with only nonviolent protests vs. mixed protests, the effect size for the change in R^2 when the interaction term between resistance to social change and protest type was added to the regression was Cohen's $f^2 = .02$. Thus, for a power of 80%, a sample size of 485 was needed. Therefore, we planned to invite 535 participants to account for an exclusion rate of 10% of the sample.

We followed the pre-registered method to exclude participants. Overall, 580 participants started the survey. 42 participants were dropped due to not completing the survey, however no participants were dropped due to not consenting to the survey or because they started the survey multiple times making their responses invalid¹. Of the remaining 538 participants, 35 participants failed the reading checks, 0 were excluded due to failed attention checks, and 13 participants were excluded because of their extremely high number of consecutive identical responses relative to the condition they have been assigned to. Lastly, we excluded 5 participants who spent less than 15 seconds reading the manipulation article, leaving a sample of $N = 485$.

Sympathetic towards pro-environmental attitudes

The sample was very sympathetic towards pro-environmental attitudes. The average participant scored very highly on the measure for *sympathy for the movement's cause* (See Figure S1). The scale had a mean of 5.65 ($SD = 1.14$).

¹ This exclusion criteria was in case a participant failed two or more of the reading comprehension questions, and was immediately dropped, and then tried the survey again after failing the reading check. It was necessary to exclude participants due to multiple attempts because they were assigned to different conditions which made the manipulation ineffective.

Figure S1*Descriptive Statistics*

Note. Histogram displaying the distribution of participants across the *Sympathy for the Movement's Cause* variable.

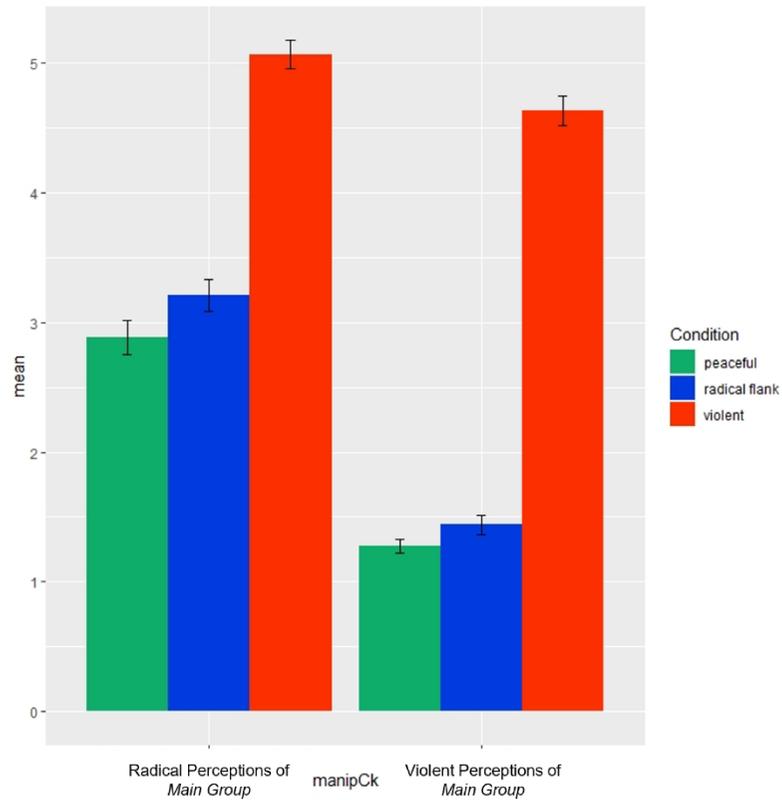
Materials

The full materials are available on the project's Open Science Framework page
https://osf.io/z5d4s/?view_only=2ca93d47f50341d2aafd774fb5d51d04

Manipulation Checks

Figure S2

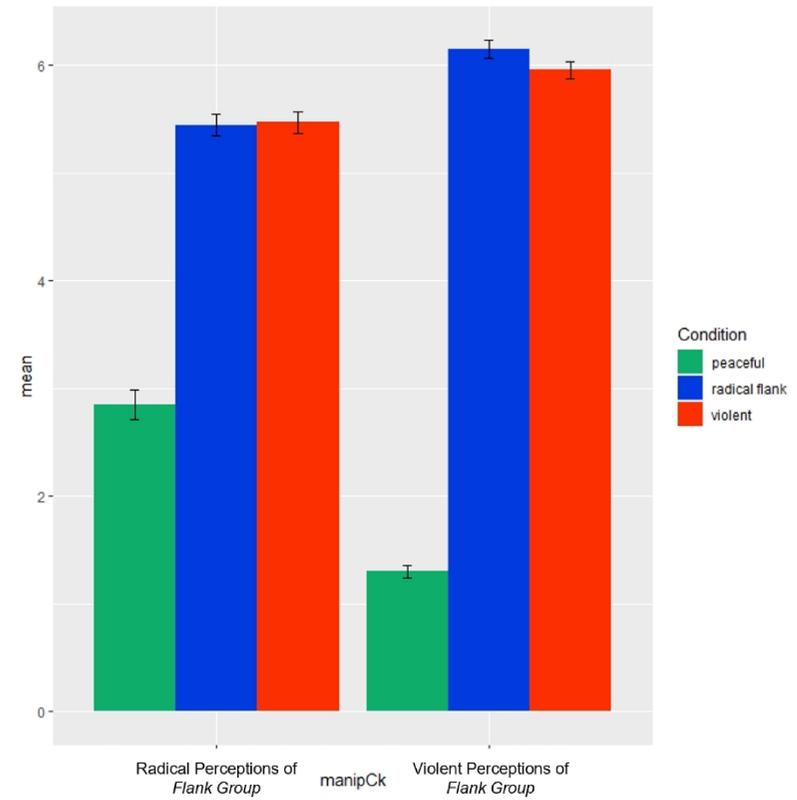
Manipulation Checks for the Main Group (PlanetVeg)



Note. Means and error bars (reflect 95% confidence intervals) of the *Main Group's (PlanetVeg)* manipulation checks in each condition (Nonviolent condition = 165, Radical Flank condition = 154, Violent condition = 166, total $N = 485$).

Figure S3

Manipulation Checks for the Flank Group (SuperGreens)



Note. Means and error bars (reflect 95% confidence intervals) of the *Flank Group's (SuperGreens)* manipulation checks in each condition (Nonviolent condition = 165, Radical Flank condition = 154, Violent condition = 166, total $N = 485$).

Testing the Conceptual Model

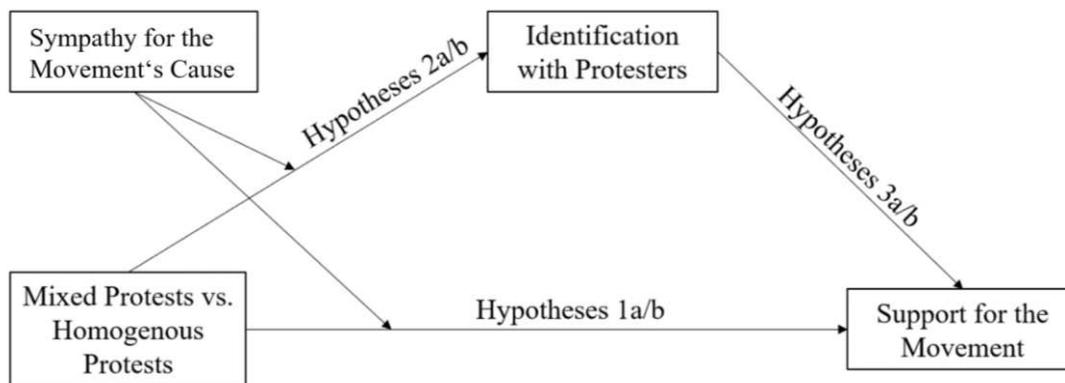
Full Analysis of Model A: Moderate Group

We first focused on the differences between the radical flank and the nonviolent condition (see upper part of Figure S5). Participants read identical texts about the peaceful actions of the *main group* (*PlanetVeg*) in these conditions. Participants in the radical flank condition had a higher level of identification with the *main group*. Furthermore, the indirect effect of the condition via identification was significant ($b = -.35$, $SE = .13$, $p < .05$). Next, we focused on the differences between the radical flank and the violent condition (see lower part of Figure S5). In the radical flank condition, participants read about the *main group* using peaceful actions whereas in the violent condition they read about the *main group* using violent tactics. Participants in the violent condition identified less with the *main group* when the protestors used violent tactics. Additionally, the indirect effect of the condition via identification was significant ($b = -1.10$, $SE = .13$, $p < .001$).

In sum, the *main group* received more support when the group was nonviolent in the radical flank condition, compared to when they used violence in the violent condition. As expected, participants identified more strongly when the group used nonviolent tactics and was contrasted with a group using violent means (radical flank condition), compared to when both groups used nonviolent tactics (nonviolent condition).

Figure S4

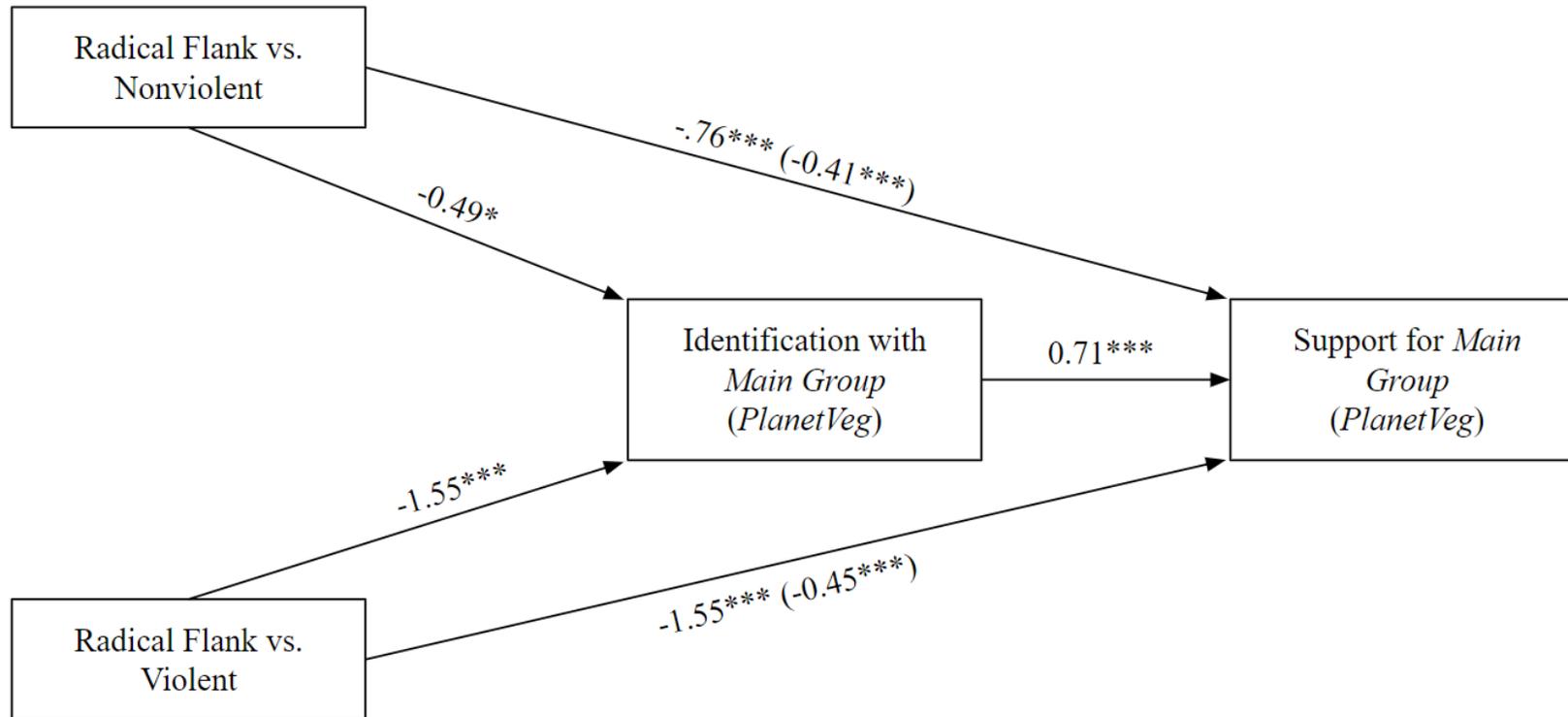
Conceptual Model



Note. The pre-registered conceptual model.

Figure S5

Model A: Moderate Group



Note. Bootstrapped Model A: Moderate Group whereby the radical flank condition is the reference condition (coded as 0, the other as 1). The index of moderated mediation is significant for the comparisons of both routes ($p < .001$). * $p < .05$. *** $p < .001$.

Full Analyses with Covariates Included

Hypothesis 1: The (a) moderate group benefits in terms of public support, while (b) the radical flank loses.

We found support for Hypothesis 1a, there was a statistically significant interaction between the effects of *condition* and *support for the flank group*, $F(2,479) = 12.17, p < .001$, partial $\eta^2 = 0.05$. Additionally, support for the *main group* was stronger for participants in the radical flank condition compared with those in the nonviolent condition, $F(2,479) = 98.25, p < .001$, partial $\eta^2 = 0.44$. Furthermore, *support for the flank group* had a significant main effect on support for the *main group*, $F(1,479) = 384.99, p < .001$, partial $\eta^2 = 0.56$.

We did not find evidence to support Hypothesis 1b. There was a statistically significant interaction between the effects of *condition* and *support for the main group* $F(2,479) = 74.22, p > .001$, partial $\eta^2 = 0.24$. Similarly, condition had a significant main effect on support for the *flank group*, $F(2,479) = 3.20, p = .042$, partial $\eta^2 = 0.53$, however there was no significant difference in scores between participants in the radical flank and violent conditions ($p = .634$). Additionally, *support for the main group* had a significant main effect on support for the *flank group*, $F(1,479) = 356.02, p < .001$, partial $\eta^2 = 0.62$.

Hypothesis 2: Participants (a) identify more with the moderate group, while (b) they identify less with the radical flank.

We found support for Hypothesis 2a, there was a statistically significant interaction between the effects of *condition* and *identification with the flank group*, $F(2,479) = 19.12, p < .001$, partial $\eta^2 = 0.07$. Additionally, identification with the *main group* was stronger for participants in the radical flank condition compared with those in the nonviolent condition, $F(2,479) = 98.93, p < .001$, partial $\eta^2 = 0.39$. Furthermore, *identification with the flank group* had a significant main effect on identification with the *main group*, $F(1,479) = 339.16, p < .001$, partial $\eta^2 = 0.58$.

We did not find evidence to support Hypothesis 2b. There was a statistically significant interaction between the effects of *condition* and *identification with the main group* $F(2,479) = 40.28, p > .001$, partial $\eta^2 = 0.14$. However, condition did not have a significant main effect on identification with the *flank group*, $F(2,479) = 0.81, p = .444$, partial $\eta^2 = 0.47$, participants in the radical flank and violent conditions did not differ in terms of identification with the *flank group*. Additionally, *identification with the main group* had a significant main effect on identification with the *flank group*, $F(1,479) = 445.22, p < .001$, partial $\eta^2 = 0.60$.

Testing the Full Mediation Model 1

We tested the full mediation model in *lavaan* in R (equivalent to Model 4, Hayes, 2018). We created a dummy variable using the radical flank condition as the reference condition (coded as 0, the other conditions as 1). As a result, we compared the radical flank with the nonviolent condition (*Route A*) and the radical flank with the violent condition (*Route B*). *Route A* analyzes identification and support for the *main group*, the moderate group in the radical flank condition. *Route B* analyses

identification and support for the *flank group*, the radical flank in the radical flank condition. Before running the analyses we checked the assumptions for regression analysis. These were not perfectly met so we performed bootstrapped significance tests.

Model A: Moderate Group

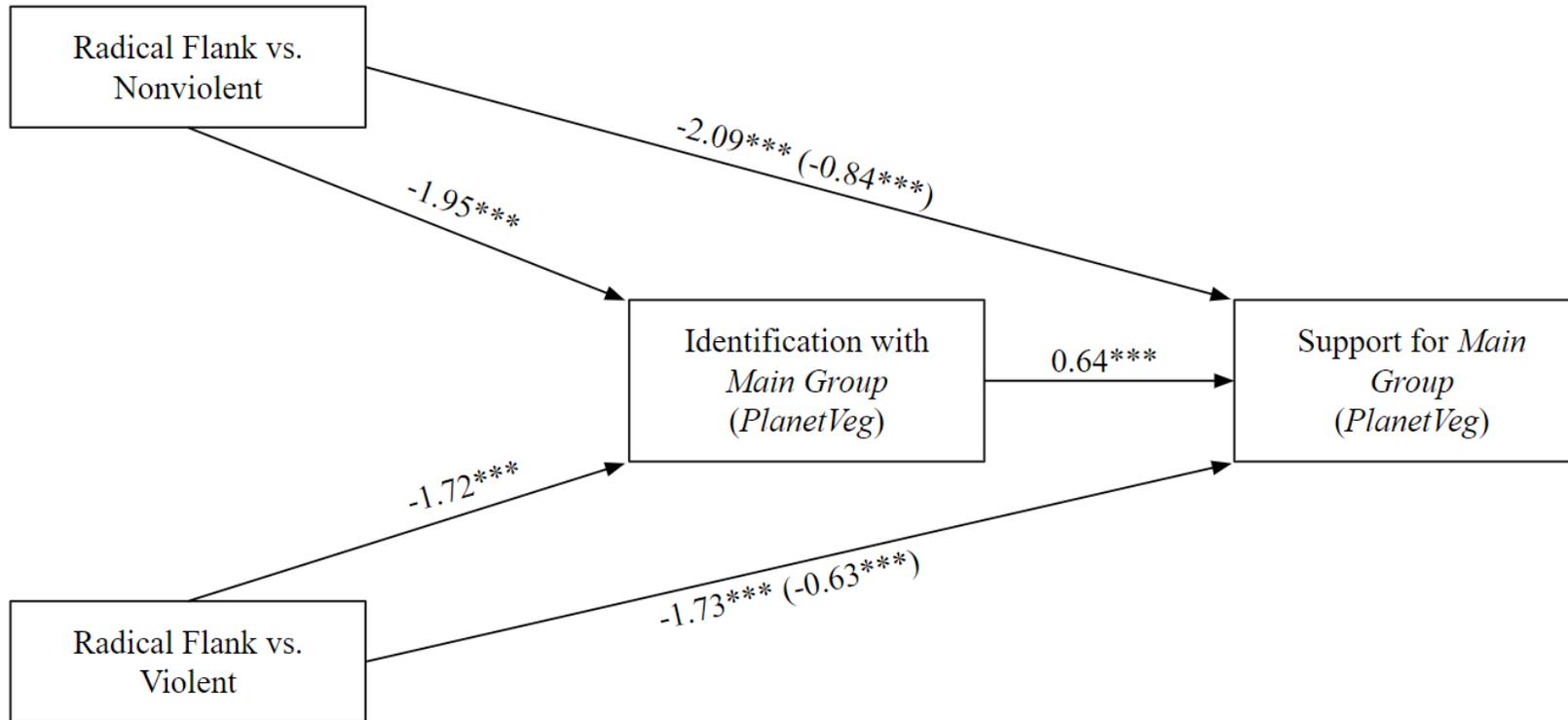
We first focused on the differences between the radical flank and the nonviolent condition (see upper part of Figure S6). Participants read identical texts about the peaceful actions of the *main group* in these conditions. Participants in the radical flank condition had a higher level of identification with the *main group*. Furthermore, the indirect effect of the condition via identification was significant ($b = -1.25, SE = .10, p < .001$). Next, we focused on the differences between the radical flank and the violent condition (see lower part of Figure S6). In the radical flank condition, participants read about the group's peaceful actions whereas in the violent condition they read about the group using violent tactics. Participants in the violent condition identified less with the *main group* when the protestors used violent tactics. Additionally, the indirect effect of the condition via identification was significant ($b = -1.10, SE = .09, p < .001$).

In sum, the *main group* received more support when the group was nonviolent in the radical flank condition, compared to when they used violence in the violent condition. As expected, participants identified more strongly when the group used nonviolent tactics and was contrasted with a group using violent means (radical flank condition), compared to when both groups used nonviolent tactics (nonviolent condition).

Model B: Radical Flank

We first assessed the differences between the radical flank and the violent condition (see lower part of Figure S7). Participants in these conditions read identical texts about the *flank group* using violent means. Participants in the radical flank condition identified less with the *flank group*. Furthermore, the indirect effect of the condition via identification was significant ($b = .82, SE = .08, p < .001$). Next we assessed the differences between the radical flank and nonviolent condition (see upper part of Figure S7). Participants in the radical flank condition read about the group using violence whereas in the nonviolent condition the group protested peacefully. As expected, participants in the radical flank condition identified less with the *flank group*. Additionally, the indirect effect of condition via identification was significant ($b = 1.33, SE = .09, p < .001$).

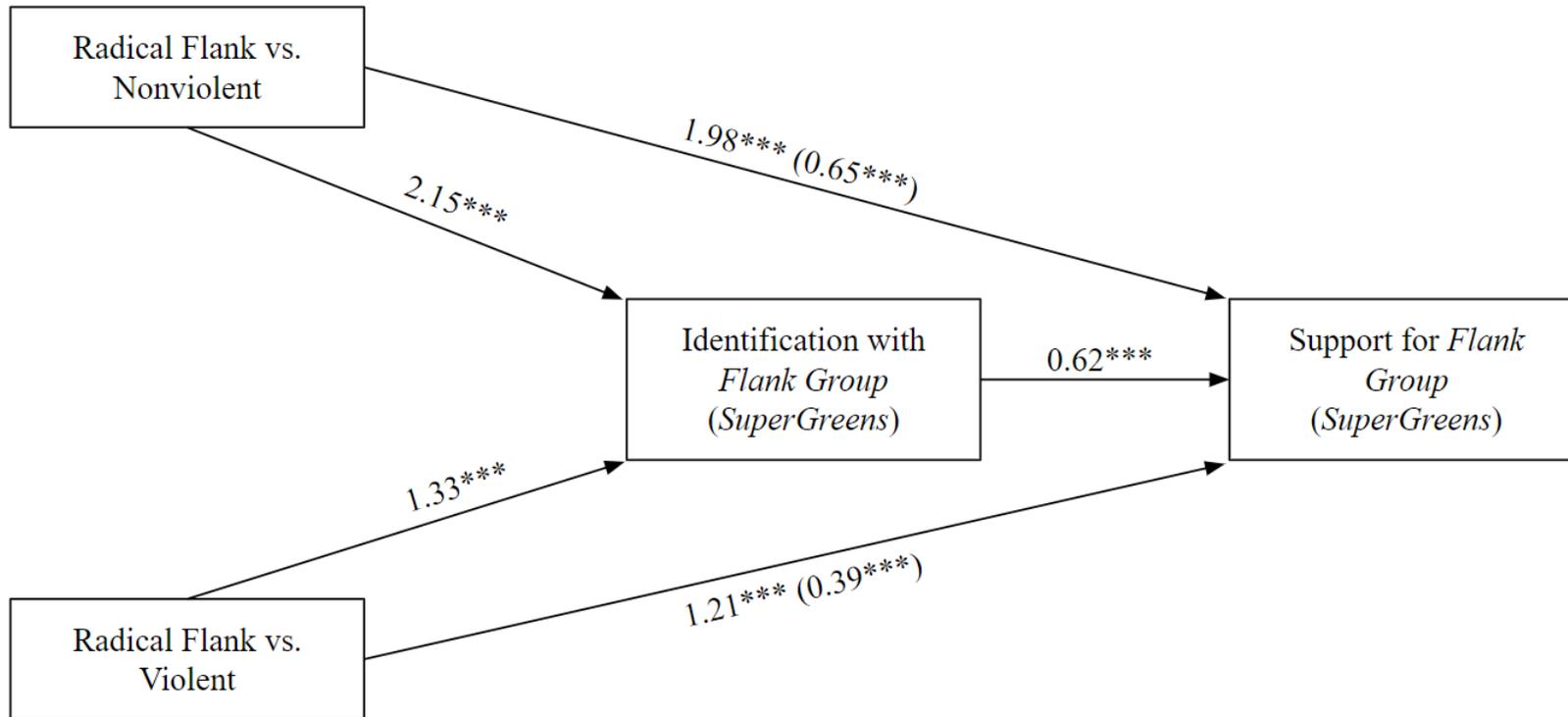
In sum, when the *flank group* were violent (radical flank condition), the group received less support than when they used nonviolent tactics (nonviolent condition). In addition, the *flank group* received less support when they were directly compared to a peaceful group (radical flank condition), compared with when they were directly contrasted to a group using violent tactics (violent condition).

Figure S6*Model A: Moderate Group (With Covariates)*

Note. Bootstrapped Model A: Moderate Group includes the covariates Identification with the *Flank Group* and Support for the *Flank Group* and whereby the radical flank condition is the reference condition (coded as 0, the other as 1). The index of moderated mediation is significant for the comparisons of both routes ($p < .001$). * $p < .05$. *** $p < .001$.

Figure S7

Model B: Radical Flank (With Covariates)



Note. Bootstrapped Model B: Radical Flank includes the covariates Identification with the *Main Group* and Support for the *Main Group* and whereby the radical flank condition is the reference condition (coded as 0, the other as 1). The index of moderated mediation is significant for the comparisons of both routes ($p < .001$). * $p < .05$. *** $p < .001$.

Full Analyses with Moderator Variable (Without Covariates)

Testing Hypothesis 1: For sympathizers, (a) the moderate group benefits in terms of public support, while (b) the radical flank loses.

We tested Hypothesis 1a by conducting a regression predicting support for the *main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause and the interaction terms between them. The interaction effect between the sympathy for the movement's cause variable and the dummy variable referring to the difference between the radical flank and the nonviolent condition was insignificant in terms of support for the *main group* ($p = .807$).

We tested Hypothesis 1b by conducting a regression predicting support for the *flank group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause and the interaction terms between them. The interaction effect between the sympathy for the movement's cause variable and the dummy variable referring to the difference between the radical flank and the violent condition was insignificant in terms of support for the *flank group* ($p = .332$).

Testing Hypothesis 2: Sympathizers (a) identify stronger with the moderate group, while (b) they identify less with the radical flank.

We tested Hypothesis 2a by conducting a regression predicting identification with the *main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause and the interaction terms between them. The interaction effect between the sympathy for the movement's cause variable and the dummy variable referring to the difference between the radical flank and the nonviolent condition was insignificant in terms of identification with the *main group* ($p = .600$).

We tested Hypothesis 2b by conducting a regression predicting identification with the *flank group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause and the interaction terms between them. The interaction effect between the sympathy for the movement's cause variable and the dummy variable referring to the difference between the radical flank and the violent condition was insignificant in terms of identification with the *flank group* ($p = .155$).

Testing Hypothesis 3: A higher identification with the protest group increases the support for the specific protest group.

We did not run any moderated mediation analyses, as the insignificant interaction effects above indicated that there were no moderated mediation effects to analyze.

Full Analyses with Moderator Variable (With Covariates)

Testing Hypothesis 1: For sympathizers, (a) the moderate group benefits in terms of public support, while (b) the radical flank loses.

We tested Hypothesis 1a by conducting a regression predicting support for the *main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, the interaction terms between them, and support for the *flank group* as a control variable. The interaction effect between the sympathy for the movement's cause variable and the dummy variable referring to the difference between the radical flank and the nonviolent condition was significant in terms of support for the *main group* ($p = .001$) (see Figure S8). Thus, sympathizers (+ 1 *SD* on sympathy for the movement's cause) supported the moderate group more in the radical flank condition compared to the nonviolent condition ($b = -2.215$, $SE = .16$, $t = -13.49$, $df = 478$, $p < .001$). For those more resistant to social change (- 1 *SD*), a smaller effect in the same direction was found ($b = -1.530$, $SE = .15$, $t = -10.10$, $df = 478$, $p < .001$). The interaction between the sympathy for the movement's cause and the dummy variable referring to the difference between the radical flank and the violent condition was also significant ($p = .026$) (see Figure S9). For sympathizers ($b = -1.916$, $SE = .15$, $t = -13.09$, $df = 478$, $p < .001$), as well as more resistant participants ($b = -1.434$, $SE = .15$, $t = -9.38$, $df = 478$, $p < .001$), the *main group* received significantly more support in the radical flank condition than in the violent condition.

To test Hypothesis 1b, we ran a regression predicting support for the *flank group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, the interaction terms between them, and support for the *main group* as a control variable. The interaction effect between the sympathy for the movement's cause variable and the dummy variable referring to the difference between the radical flank and the violent condition was significant ($p = .025$). For sympathizers, the support for the *flank group* was lower in the radical flank condition relative to the violent one ($b = 1.366$, $SE = .14$, $t = 9.87$, $df = 478$, $p < .001$). We also found a smaller but significant effect for resistant participants ($b = 0.934$, $SE = .14$, $t = 6.59$, $df = 478$, $p < .001$). The other interaction effect, referring to the difference between the radical flank and nonviolent conditions, was also significant ($p < .001$). Sympathizers supported the *flank group* significantly more in the nonviolent condition ($b = 2.439$, $SE = .13$, $t = 18.68$, $df = 478$, $p < .001$). This effect was smaller for resistant participants but still revealed the same pattern ($b = 1.514$, $SE = .13$, $t = 11.51$, $df = 478$, $p < .001$).

Testing Hypothesis 2: Sympathizers (a) identify stronger with the moderate group, while (b) they identify less with the radical flank.

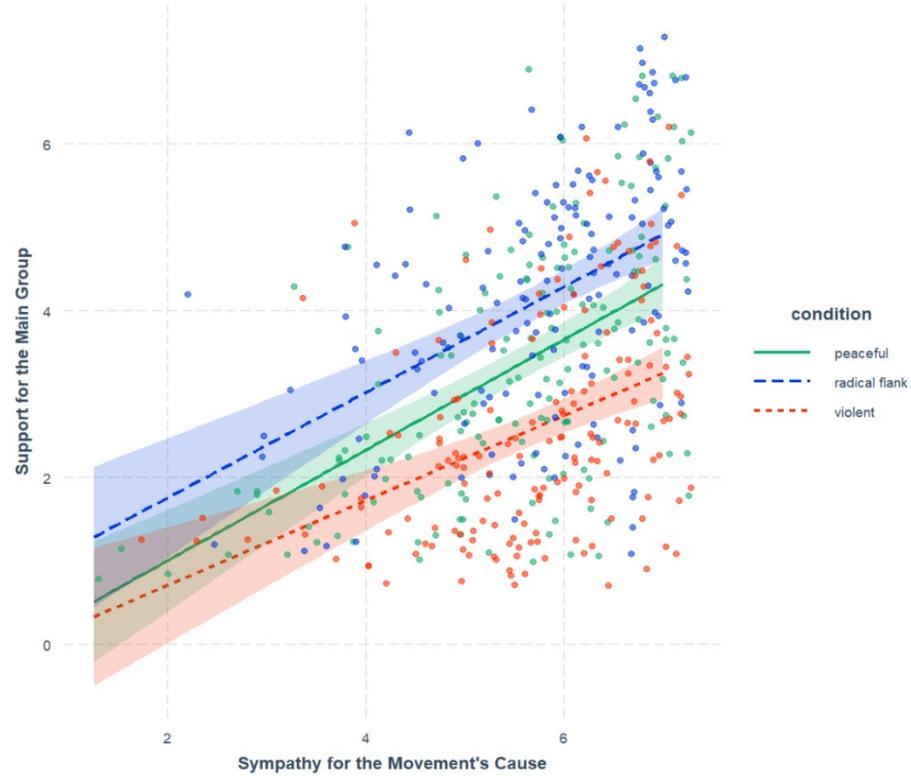
We tested Hypothesis 1a by conducting a regression predicting identification with the *main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, the interaction terms between them, and identification with the *flank group* as a control variable. The interaction effect between the sympathy for the movement's

cause variable and the dummy variable referring to the difference between the radical flank and the nonviolent condition was insignificant in terms of identification with the *main group* ($p = .121$).

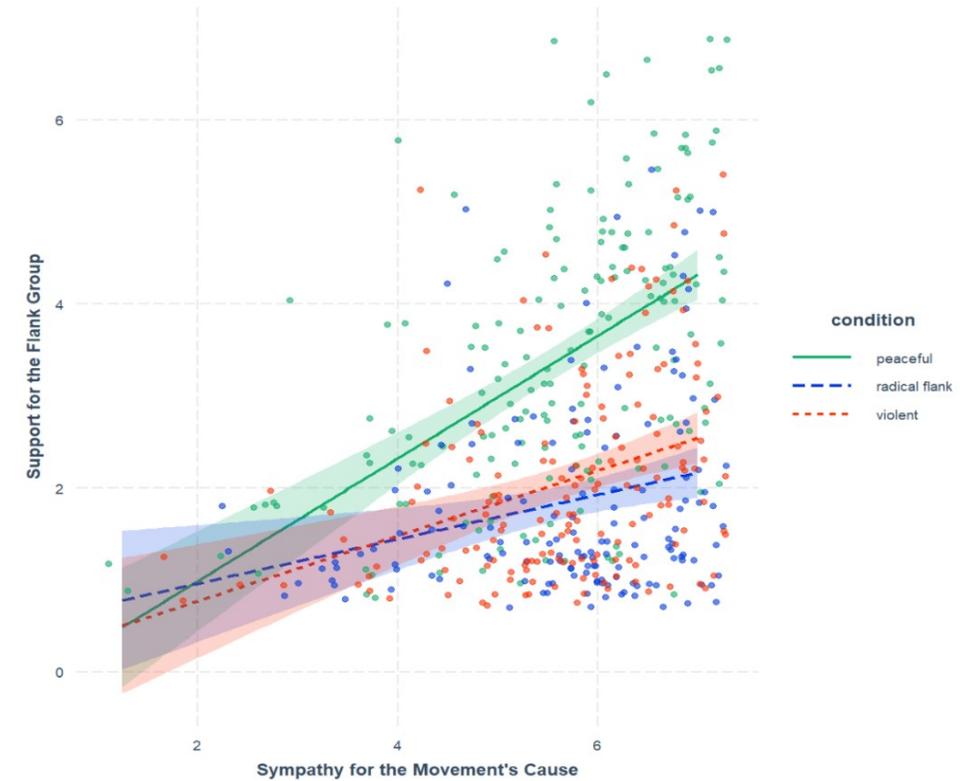
We tested Hypothesis 1b by conducting a regression predicting identification with the *flank group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, the interaction terms between them, and identification with the *main group* as a control variable. The interaction effect between the sympathy for the movement's cause variable and the dummy variable referring to the difference between the radical flank and the violent condition was insignificant in terms of identification with the *flank group* ($p = .270$).

Testing Hypothesis 3: A higher identification with the protest group increases the support for the specific protest group.

We did not run any moderated mediation analyses, as the insignificant interaction effects above indicated that there were no moderated mediation effects to analyze.

Figure S8*Interaction effect of Hypothesis 1a (with covariates)*

Note. Plotted regressions visualizing the interaction effects. Nonviolent condition $n = 165$, Radical Flank condition $n = 154$, Violent condition $n = 166$, total $N = 485$.

Figure S9*Interaction effect of Hypothesis 1b (with covariates)*

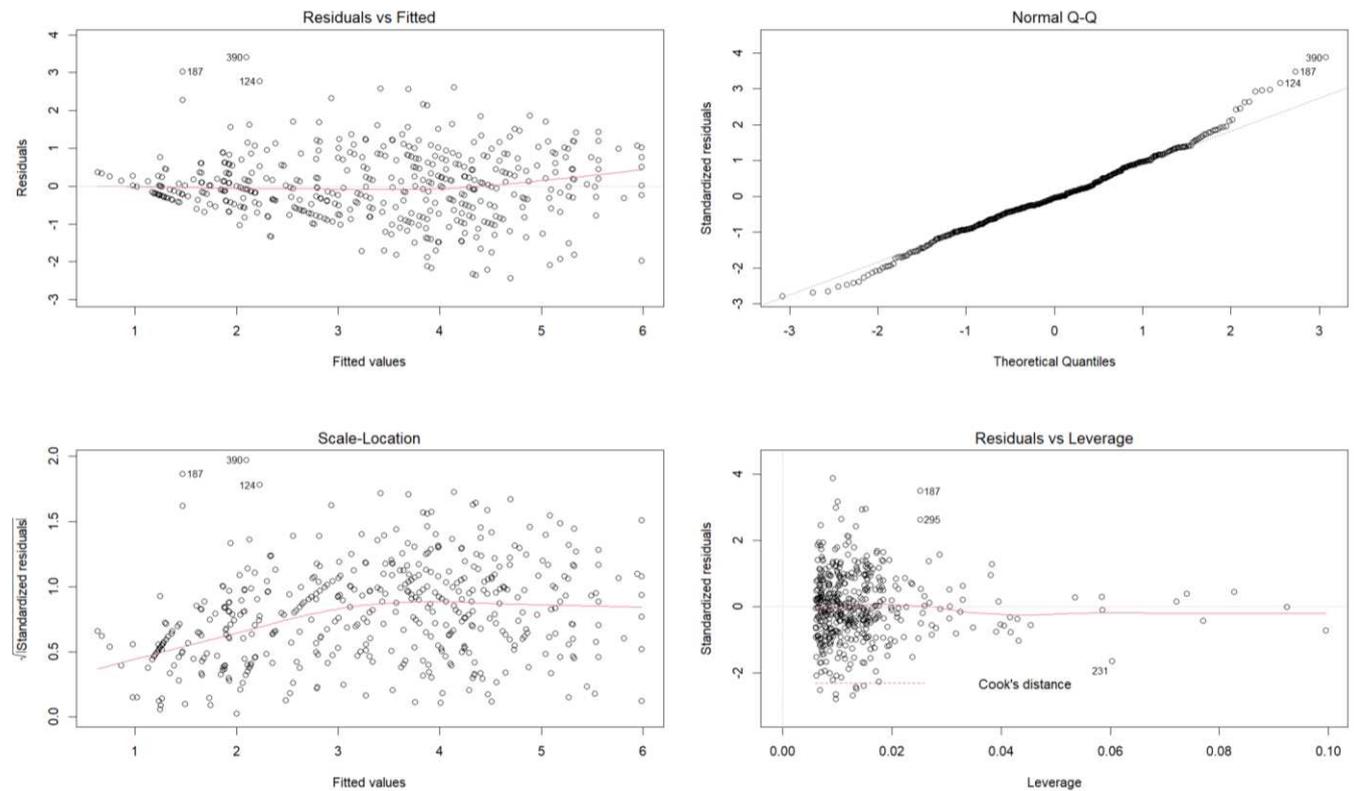
Note. Plotted regressions visualizing the interaction effects. Nonviolent condition $n = 165$, Radical Flank condition $n = 154$, Violent condition $n = 166$, total $N = 485$.

Assumption Checks

We used the graphs to check the linearity assumption (Residuals vs. Fitted), normality of residuals assumption (QQ-plot), and the homoscedasticity assumption (Scale-Location). Furthermore, we investigated the Residuals vs. Leverage-plot to identify unusually influential data points. Below, we present the diagnostic graphs of *Model A: Moderate Group* (Figure S10 and S11) and *Model B: Radical Flank* (Figure S12 and S13).

Figure S10

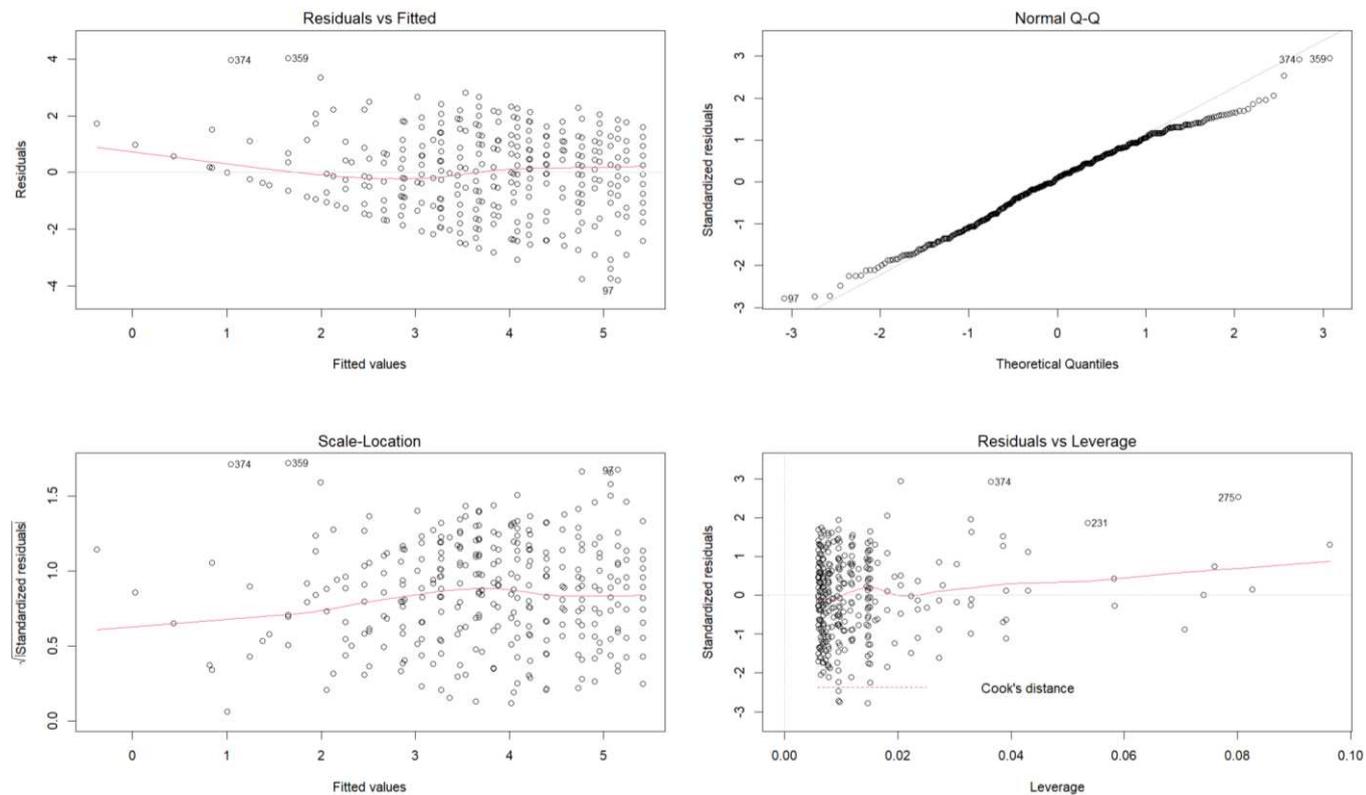
Visual Assumption Checks Model A



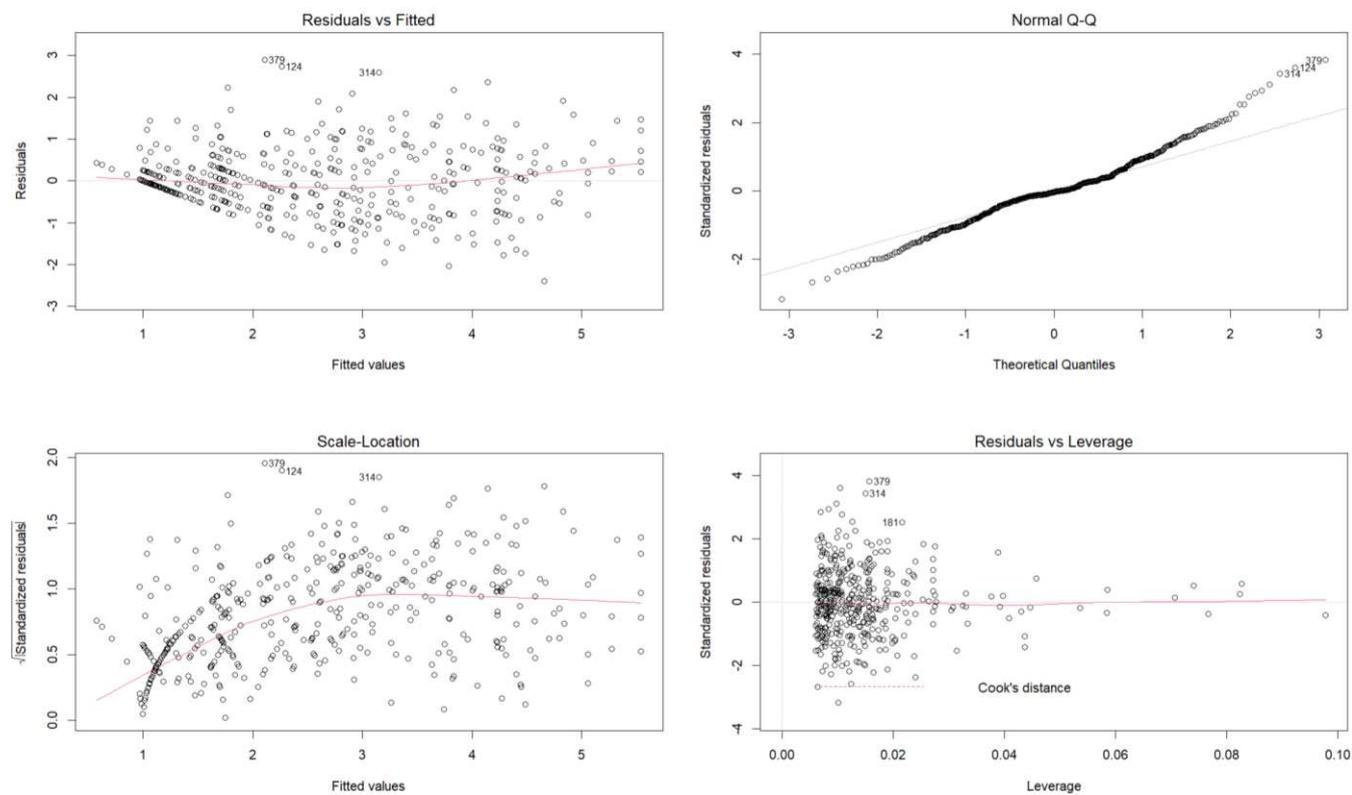
Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Support for Main Group*.

Figure S11

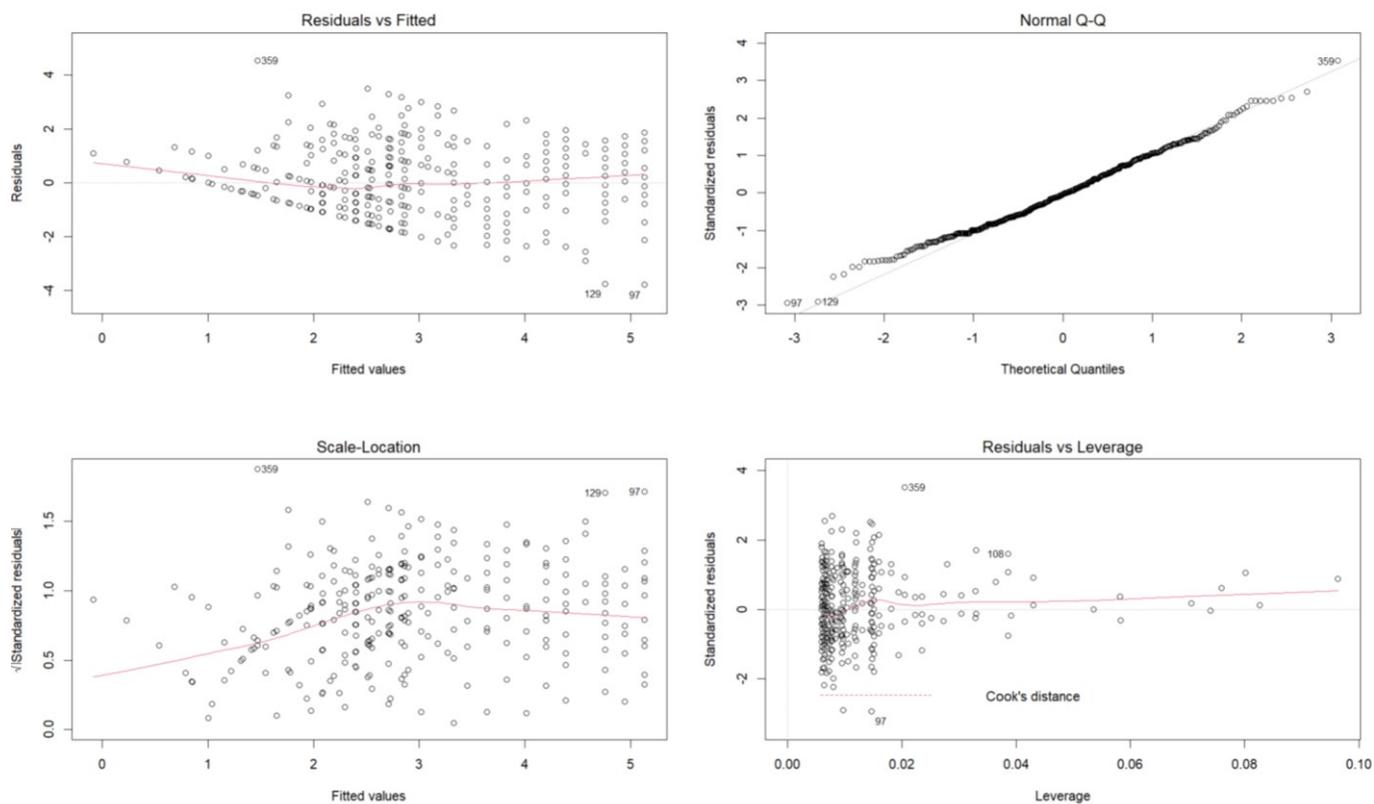
Visual Assumption Checks Model A



Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Identification with Main Group*.

Figure S12*Visual Assumption Checks Model B*

Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Support for Flank Group*.

Figure S13*Visual Assumption Checks Model B*

Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Identification with Flank Group*.

Supplementary Information Study 2

Anti-Fracking Movement in the US

Sample

As pre-registered, 535 participants were recruited via Mturk, meaning that 535 participants finished the survey and submitted a code. We followed the pre-registered method to exclude participants. Overall, 909 participants started the survey, whereby 66 observations failed the bot check and were immediately excluded. 256 participants were dropped because they started the survey multiple times making their responses invalid². Additionally, 167 participants failed the reading checks without attempting the survey another time. Of the 486 remaining participants, 8 were excluded due to failed attention checks, and 21 participants were excluded because of their extremely high number of consecutive identical responses relative to the condition they have been assigned to. Lastly, we excluded 2 participants who spent less than 15 seconds reading the manipulation article, leaving a sample of $N = 455$.

The final sample had a mean age of 40.15 years ($SD = 13.33$). As described, 272 participants identified as female, 182 as male, and one participant as trans non-binary. The majority of the sample identified as White ($n = 336$), 32 participants identified as Asian, 32 as Black or African-American, 31 as Hispanic or Latino, 17 as Multi-racial, and 7 participants chose “Other”. Most of the participants were employed full-time ($n = 250$), 75 were employed part-time, 36 were homemakers, 33 retired, 21 students, and 40 participants were unemployed and looking for work. Overall, the demographic attributes were fairly even distributed across the three conditions. Most of the participants had a high level of education: 178 had a Bachelor's degree, 82 a Master's degree, 56 an Associate's degree, 87 went to “some college”, 18 participants had a Ph.D., J.D., or M.D., and only 34 chose a High school diploma or some high school/GED as their highest level of education. As their current household income 49 participants chose the category “Under \$20,000”, 83 chose “\$20,000-\$39,999”, 80 selected “\$40,000-\$59,999”, 86 chose “\$60,000-\$79,999”, 88 selected “\$80,000-\$119,999”, and 68 chose the highest category “\$120,000 or more”. Participants belonged to the following religious groups: 112 chose “Protestant”, 90 selected “Catholic”, 10 chose “Jewish”, 7 selected “Buddhist”, 5 chose “Hindu”, 5 selected “Muslim”, and 191 selected “Other”.

Sympathy for the movement's cause (pro-environmental attitudes)

The participants' ideology (from very conservative to very liberal) had a mean of 4.16 ($SD = 1.78$) on a 7-point Likert scale. 129 participants described themselves as being affiliated with the Republican Party ($n = 183$ Democratic Party, $n = 94$ None, $n = 49$ Other). However, the sample was very sympathetic towards the movement's cause. The average participant scored high on the measure for Sympathy for the movement's cause (see Figure S14). The scale had a mean of 5.07 ($SD = 1.63$)

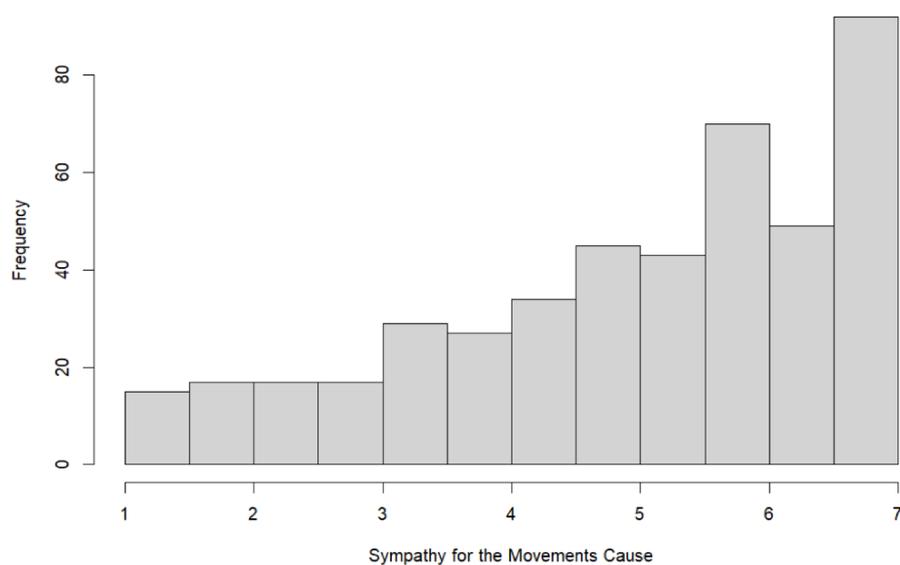
² Many of these observations failed two or more of the reading comprehension questions, therefore, being immediately dropped. Then, the respondents tried the survey again after failing the reading check and as mentioned they were excluded due to the multiple attempts. This was necessary because they were assigned to different conditions which made the manipulation ineffective.

and was skewed to the left with 73.19 % of participants above the midpoint of the scale (i.e. supportive of environmental measures).

Moreover, participants also scored very high on other measures about environmental attitudes. They had a mean of 5.13 ($SD = 1.51$) on the scale “*Policy Support against Fracking on the National Level*”. Even the sub-sample of only conservatives from *Lean Republicans* to *Strong Republicans* ($n = 159$) were moderately sympathetic towards environmental attitudes (see Figure S15).

Figure S14

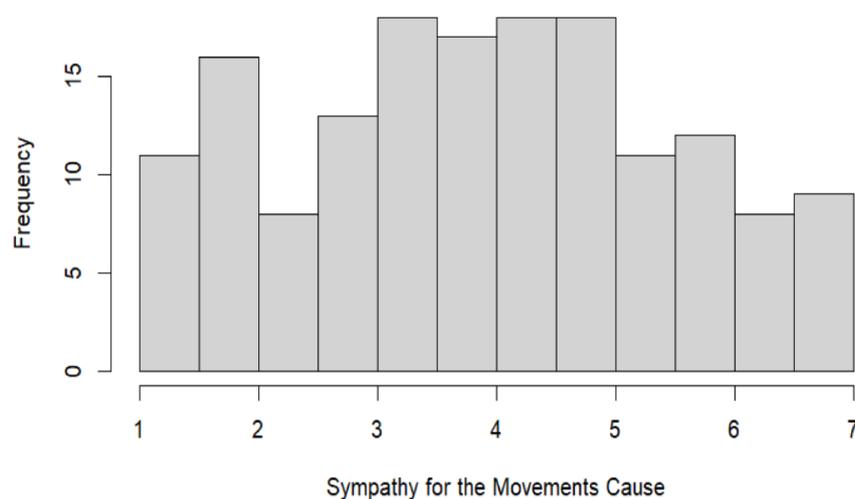
Distribution of Sympathy to the Movement's Cause



Note. The final sample ($N = 455$) had a mean of 5.07 ($SD = 1.63$) on *Sympathy to the Movement's Cause*.

Figure S15

Republicans' distribution on Sympathy for the movement's cause



Note. The Republican sample ($n = 159$) had a mean of 4.00 ($SD = 1.60$) on *Sympathy for the movement's cause*.

Correlations with Sympathy for the Movement's Cause

Table S1 below shows the correlation of some demographic variables with sympathy for the movement's cause. Based on the experimental design we used in Study 2, the causal influence of the moderator cannot be inferred. It is possible that the influence we attribute to the moderator actually originates from a different variable. To illustrate this issue, we have included the table below.

Table S1

Means, standard deviations, and correlations with confidence intervals

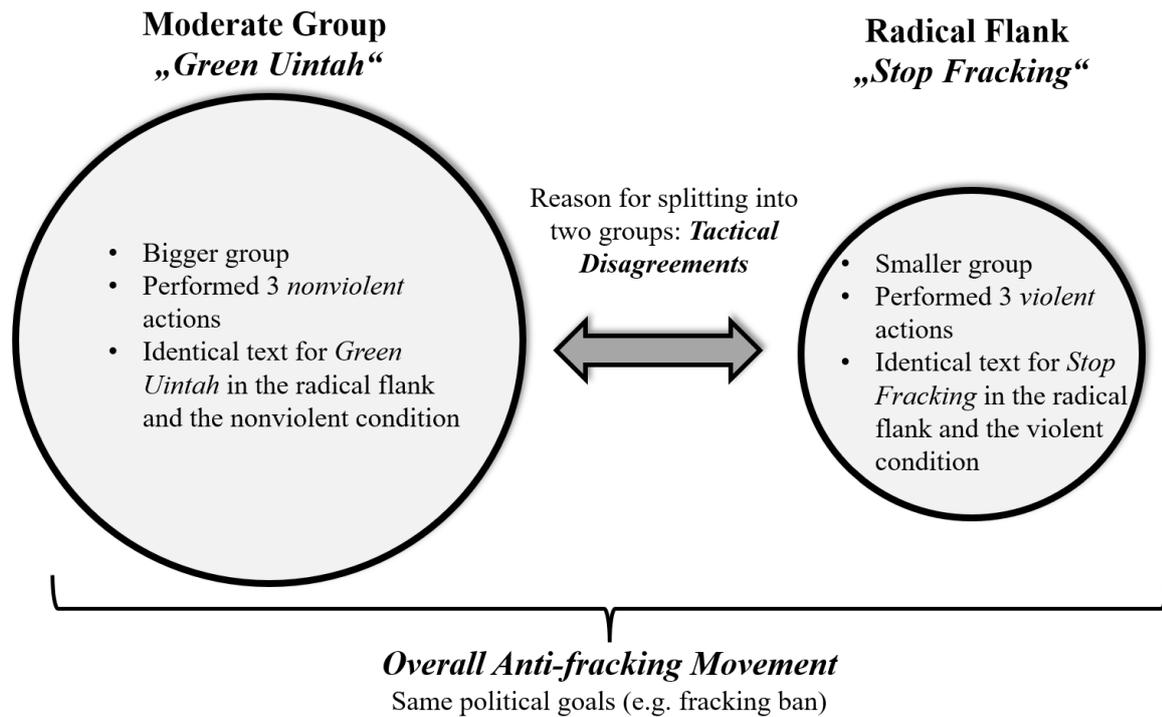
Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Sympathy for the Movement's Cause	5.07	1.63			
2. age	40.15	13.32	-.23** [-.31, -.14]		
3. ideology	4.16	1.78	.67** [.62, .72]	-.25** [-.33, -.16]	
4. income	3.63	1.59	-.07 [-.16, .02]	-.03 [-.12, .07]	-.06 [-.15, .04]

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Materials

The full materials are available at the project's Open Science Framework page https://osf.io/z5d4s/?view_only=2ca93d47f50341d2aafd774fb5d51d04.

The Figure below illustrates how the two groups Main Group "Green Uintah" and Flank Group "Stop Fracking" were described in the newspaper article.

Figure S16*Radical Flank Condition*

Note. Relationship between *Main Group* and *Flank Group* in the radical flank condition.

Measures: Overall Anti-Fracking Movement***Identification with the protesters***

Participants rated their agreement and disagreement with these the overall anti-racking movement ($\alpha = .95$) (“I feel similar to the protesters.”; “I identify with the protesters.”; “I relate to the protesters.”)..

Support for the overall movement

I measured the support for the movement and the two subgroups with four items each; thus, twelve items in total (e.g. “I support the overall anti-fracking movement.”; “I am willing to share posts on social media advocating for overall anti-fracking movement”; “I would donate money to overall anti-fracking movement”; “I would participate in a protest of overall anti-fracking movement.”). The participants of the current study indicated their extend of agreement or disagreement with the statements about the overall anti-fracking movement ($\alpha = .91$) on a seven-point scale.

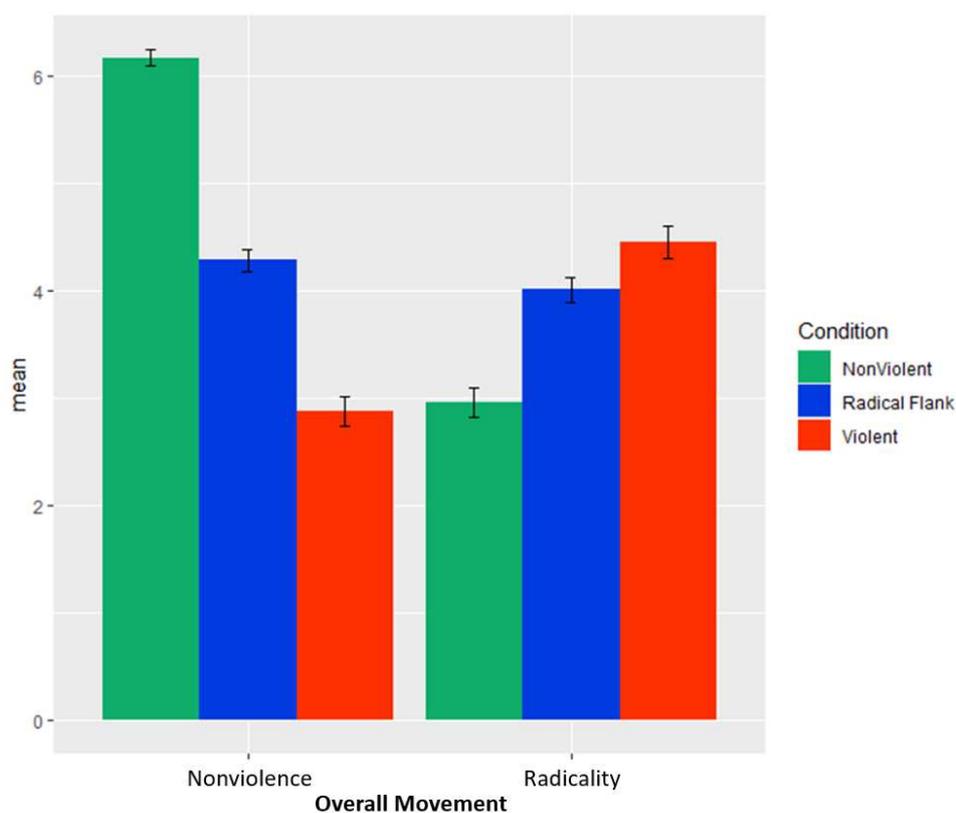
Manipulation Checks

In the following, the results of the overall movement’s manipulation checks are presented. One-way ANOVAs revealed significant differences of the perception of the overall anti-fracking movement between the conditions, regarding the perceived nonviolence, $F(2, 452) = 226.4, p < .001$, and perceived radicality, $F(2, 452) = 31.41, p < .001$. Pairwise comparisons showed that the overall movement in the nonviolent condition was rated significantly more nonviolent than in both other

conditions (p 's $< .001$, d 's > 1.64). Moreover, participants perceived the overall movement in the radical flank condition as more nonviolent than in the violent condition ($p < .001$, $d = 0.95$). And as expected, we found the opposite pattern for radicality (see Figure S17). The overall movement in the nonviolent condition was perceived significantly less radical than in both other conditions (p 's $< .001$, d 's > 0.67). However, there was only a small difference between the perception of the overall movement in the radical flank condition compared to the violent condition ($p = .02$, $d = 0.26$), whereby the violent condition was rated more radical.

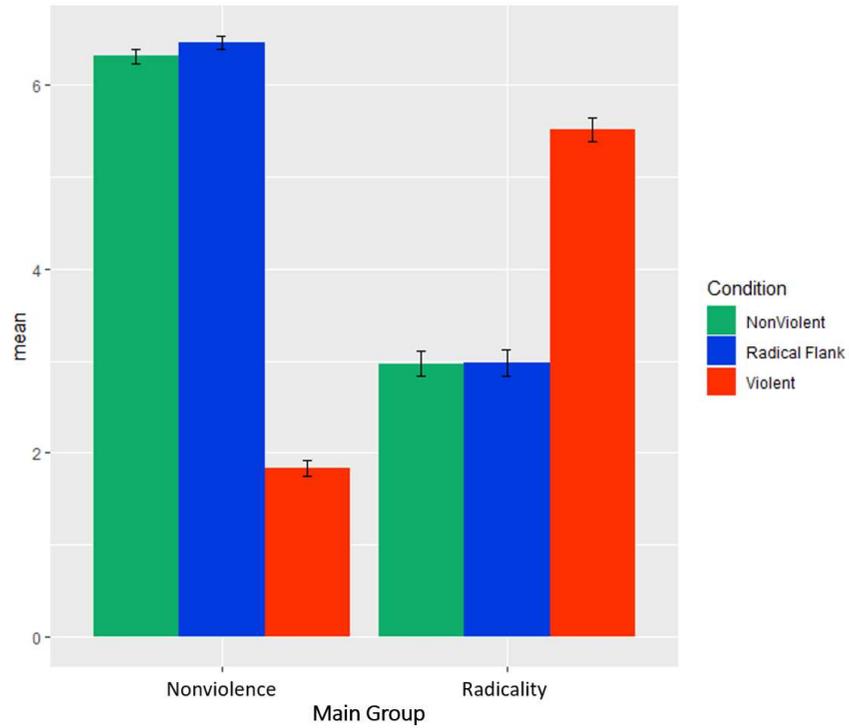
Figure S17

Manipulation Checks of the overall Movement

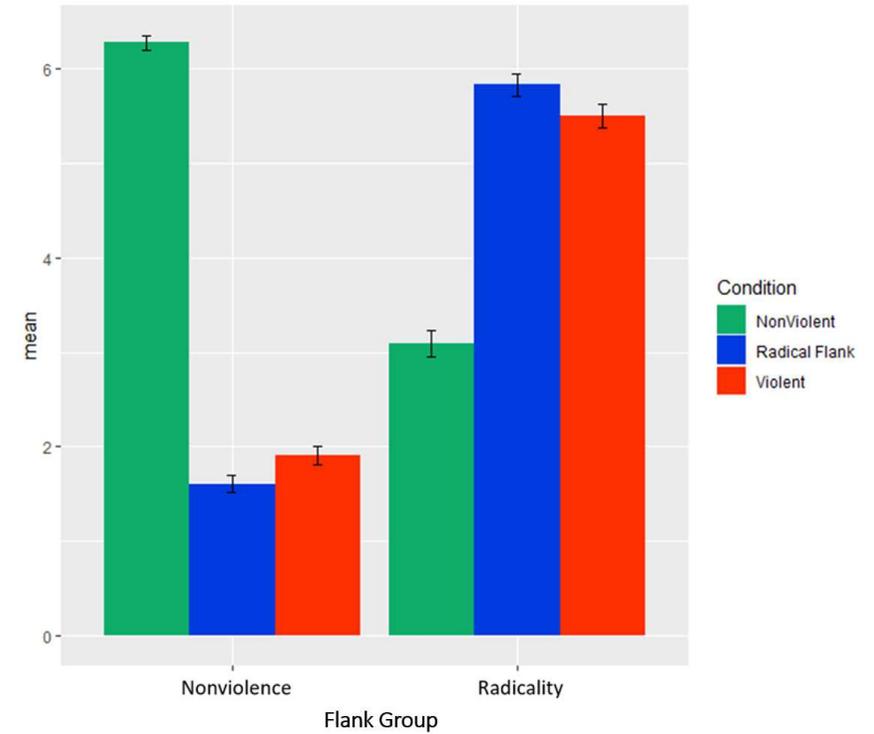


Note. Means and error bars (reflect 95% confidence intervals) of the manipulation checks of the overall movement in each condition (Nonviolent condition = 149, Flank condition = 156, Violent condition = 150, total $N = 455$).

And below the manipulation checks of *the Main Group* and *The Flank Group* are presented separately (Figure S18 and S19).

Figure S18*Manipulation Checks of the Main Group*

Note. Means and error bars (reflect 95% confidence intervals) of *Main Group's* manipulation checks in each condition (Nonviolent condition = 149, Radical Flank condition = 156, Violent condition = 150, total $N = 455$).

Figure S19*Manipulation Checks of The Flank Group*

Note. Means and error bars (reflect 95% confidence intervals) of *Flank Group's* manipulation checks in each condition (Nonviolent condition = 149, Radical Flank condition = 156, Violent condition = 149, total $N = 454$).

Relationship between groups

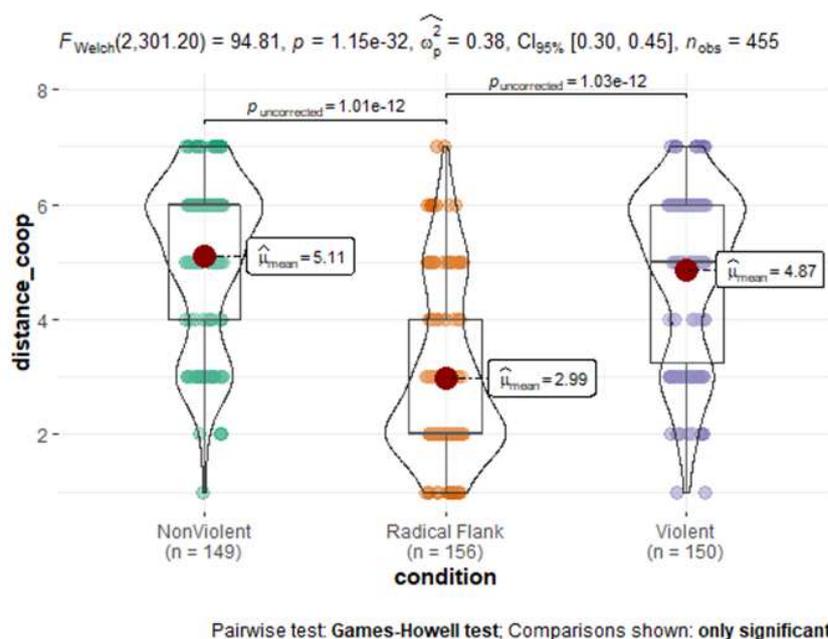
Furthermore, we included multiple items to assess the relationship between the different protest groups. One item measured the distance between the groups (“To what extent do you think *Green Uintah* and *Stop Fracking* are distanced from each other or cooperate with each other?”) on a scale from 1 = *Very distanced* to 7 = *Very cooperative*. Participants also completed three items that were an adapted and changed version of the *Inclusion of Other in the Self* (IOS) measurement (Aron et al., 1992). They were asked to select the picture that best described the relationship between the overall anti-fracking movement and *the main group*, the overall movement, and *the flank group*, and, finally, *the main group* and *the flank group* ($\alpha = .69$). Respondents chose between seven pairs of circles from 1 = *No Overlap* to 7 = *Full Overlap*.

Results: Differences between conditions regarding the group’s relationship

The Figures S20 and S21³ revealed that participant perceived the relationship between *Green Uintah* and *Stop Fracking* as closer in the nonviolent and violent condition compared to the radical flank condition.

Figure S20

Relationship: Cooperation vs. Distance

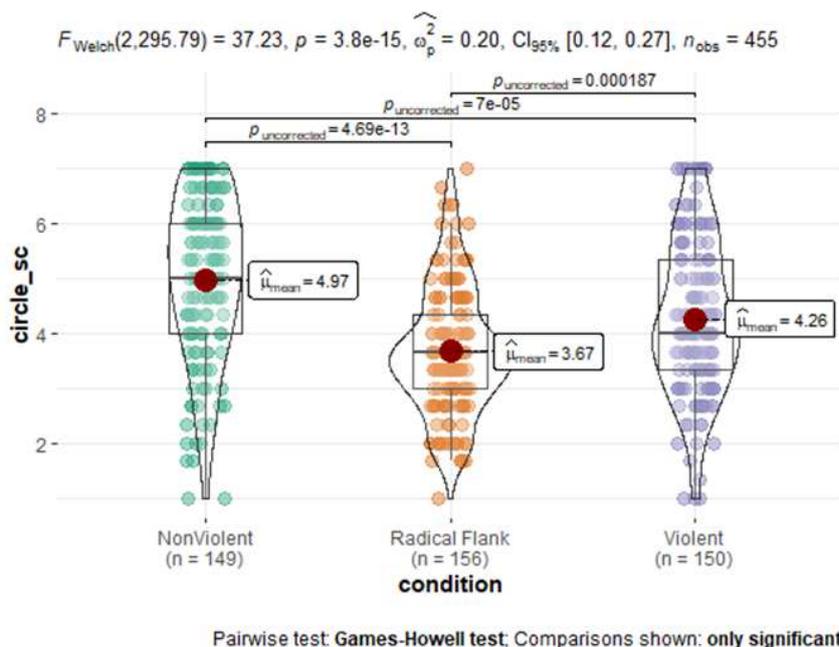


Note. Differences between the conditions on the item about the relationship between the two groups. High scores indicate a perceived cooperation between the subgroups, whereas low scores represent a distance between the groups.

³ The figures were generated using the *ggstatsplot* package Patil (2021).

Figure S21

Relationship: Circle overlap between the groups



Note. Differences between the conditions about the group overlap. Higher scores indicate a bigger overlap between the groups, thus, represent higher perceived similarity.

Reason for the deviation of the preregistered model (overall measures)

As preregistered, we originally planned to use the measures of the overall movement for the model. However, we decided to examine the measures of the moderate group and radical flank separately because the overall measures of *support* and *identification* were not affected by condition in the specific study design. There were no significant differences between the conditions on the overall measures (Figure S23 and S24). Because we argue that it is highly unlikely that participants would support a violent movement as much as a nonviolent one⁴, we assume that rather than being a measure for the joined perception/attitudes towards *the main group* and *the flank group*, the overall perception seems to be a general measure of the participants' opinions towards fracking. It seems like it wasn't clear enough to participants what we meant by supporting and identifying with the overall movement⁵, which makes sense given that we had presented them with two separate and independent groups.

Thus, it seems here they responded mostly driven by their general attitudes about fracking and the environment, as those measures were very highly correlated with the measure *Sympathy for the movement's cause* (r 's > .60, p 's < .001). Figures S23 and S24 illustrate the pattern whereby the overall measures don't seem to be influenced by the specific condition.

⁴ This argument is also supported because other patterns are revealed if the group-level is considered.

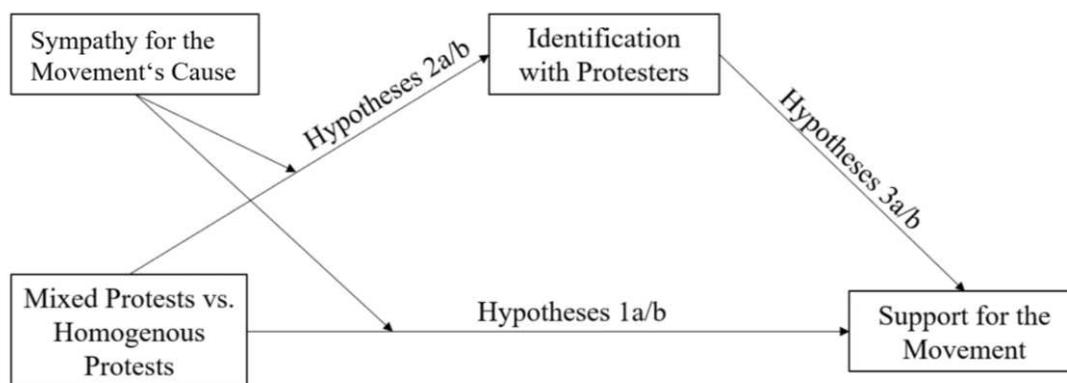
⁵ We were hoping that participants would conceptualize the overall movement as the combination of *the main group* and *the flank group*.

Therefore, we decided to use the measures of the distinct groups (*main group* and *flank group*) for the analyses of this study since they varied between conditions and seemed to capture what we were hoping to measure. Unfortunately, we did not pre-register hypotheses on the levels of the distinct groups.

Below, the pre-registered conceptual model is presented, which we strictly followed on a conceptual level.

Figure S22

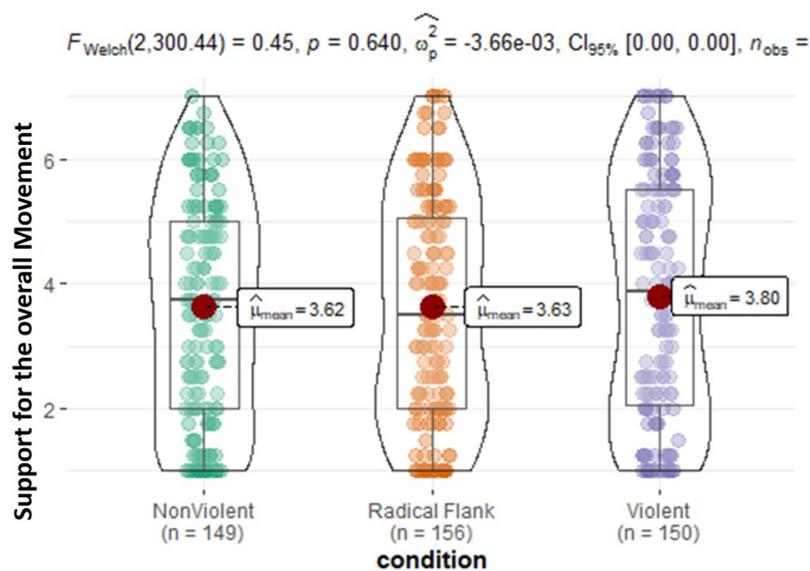
Conceptual Model



Note. The pre-registered conceptual model which is the focus of the study.

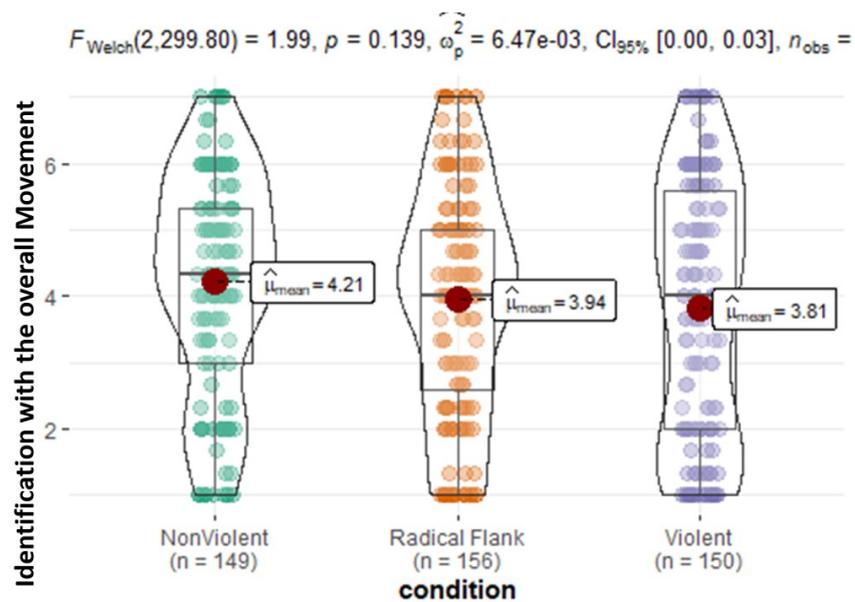
Figure S23

Support for the overall Movement



Pairwise test: Games-Howell test; Comparisons shown: **only significant**

Note. Distribution and means of *Support for the overall Movement* for each condition. There were no significant differences between the conditions.

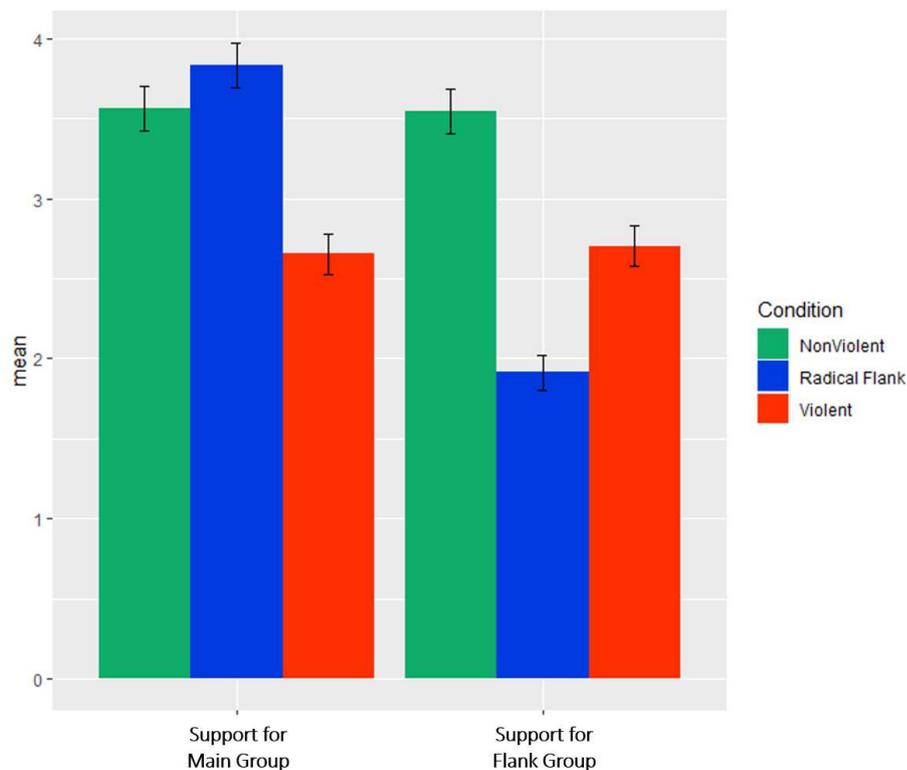
Figure S24*Identification with the overall Movement*

Pairwise test: Games-Howell test; Comparisons shown: **only significant**

Note. Distribution and means of *Identification with the overall Movement* for each condition. There were no significant differences between the conditions.

Comparing Levels of Public Support

Figure S25 illustrates the comparison of support for each group.

Figure S25*Support for the groups*

Note. Means and error bars (reflect 95% confidence intervals) of the levels of support for *the main group* and *the flank group* in each condition (Nonviolent condition = 149, Radical Flank condition = 156, Violent condition = 150, total $N = 455$).

Models with covariates Study 2

Testing the models with the covariates

The results of the models with the covariates regarding the other group are reported below.

Hypothesis 1: For sympathizers, (a) the moderate group benefits in terms of public support, while (b) the radical flank loses.

We tested Hypothesis 1a by conducting a regression predicting support for *the main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, the interaction terms between them, and the support for *the flank group* as a control variable (see Table S2). The interaction between sympathy for the movement's cause and the dummy variable referring to the difference between the radical flank and the nonviolent condition was significant (see Figure S26). Thus, sympathizers (+ 1 *SD* on sympathy for the movement's cause)⁶ supported the moderate group more in the radical flank condition compared to the nonviolent

⁶ Further information about the distribution of the sympathetic sample can be found in the supplementary materials.

condition ($b = -2.17$, $SE = .16$, $t = -13.77$, $df = 448$, $p < .01$). For those more resistant to social change ($-1 SD$), we found a smaller effect in the same direction ($b = -0.92$, $SE = .14$, $t = -6.58$, $df = 448$, $p < .01$).

To test Hypothesis 1b, we ran the same regression model but predicting support for *the flank group* (see Table S2). The interaction between sympathy for the movement's cause and the dummy variable representing the difference between the radical flank and the violent condition was also significant (see Figure S26).

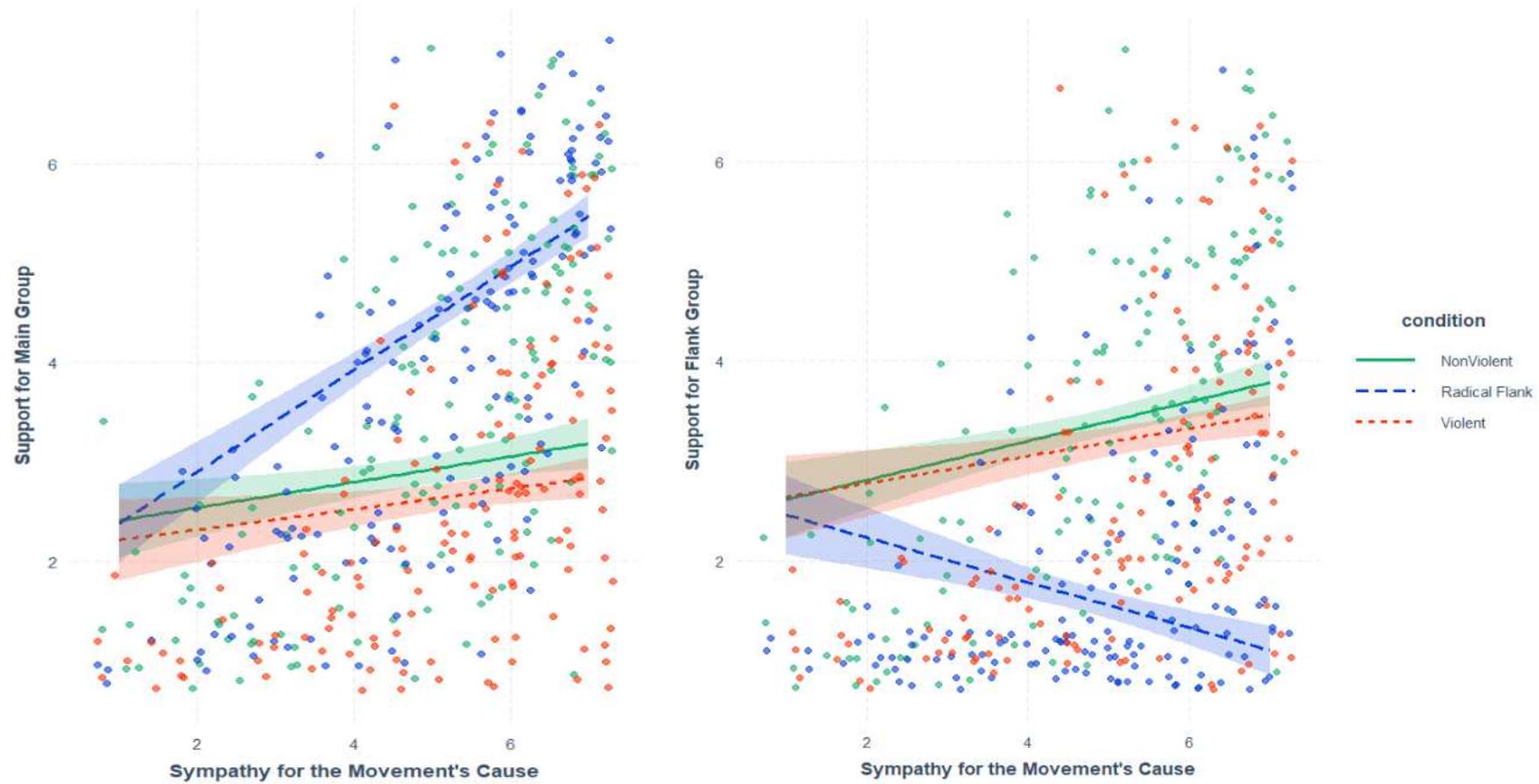
Table S2*Hypotheses 1a and 1b with covariates*

<i>Predictors</i>	Support for Main Group				Support for Flank Group			
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>	<i>Estimate</i> <i>s</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>
(Intercept)	-0.19	0.23	-0.64 – 0.25	0.391	0.18	0.22	-0.25 – 0.62	0.409
Condition D1: Radical Flank vs. Nonviolent	0.41	0.31	-0.21 – 1.03	0.191	-0.27	0.31	-0.88 – 0.34	0.392
Condition D2: Radical Flank vs. Violent	0.24	0.33	-0.40 – 0.89	0.457	-0.18	0.32	-0.82 – 0.45	0.572
Sympathy for the Movement's Cause	0.51	0.04	0.43 – 0.60	<0.001	-0.23	0.05	-0.32 – -0.13	<0.001
Support for <i>Flank Group</i>	0.76	0.03	0.70 – 0.83	<0.001	-	-	-	-
Support for <i>Main Group</i>	-	-	-	-	0.74	0.03	0.68 – 0.80	<0.001
Condition D1 X Sympathy for the Movement's Cause	-0.39	0.06	-0.51 – -0.27	<0.001	0.42	0.06	0.30 – 0.54	<0.001
Condition D2 X Sympathy for the Movement's Cause	-0.41	0.06	-0.53 – -0.29	<0.001	0.36	0.06	0.24 – 0.48	<0.001
Observations	455				455			
R ² / R ² adjusted	0.764 / 0.761				0.752 / 0.749			

Note. Regression analyses of the Hypotheses 1a and 1b with covariates regarding the other group.

Figure S26

Interaction effect of Hypotheses 1a and 1b with covariates



Note. Plotted regressions visualizing the interaction effects (including the covariate of support for the respective other group). Nonviolent condition = 149, Radical Flank condition = 156, Violent condition = 150, total $N = 455$.

For sympathizers, the support for *the flank group* was lower in the radical flank condition relative to the violent one ($b = 2.25$, $SE = .15$, $t = 15.37$, $df = 448$, $p < .01$). We also found a smaller but significant effect for resistant participants ($b = 1.07$, $SE = .14$, $t = 7.52$, $df = 448$, $p < .01$).

Hypothesis 2: Sympathizers (a) identify stronger with the moderate group, while (b) they identify less with the radical flank.

Testing Hypothesis 2a, we conducted a regression predicting identification with *the main group* including the dummy variables with the radical flank condition as the reference group, sympathy for the movement's cause, the interaction terms between them, and the identification with *the flank group* as a control variable (see Table S3). The interaction term between sympathy for the movement's cause and the dummy variable referring to the difference between the radical flank and the nonviolent condition was significant (see Figure S27). The presence of the radical flank significantly increased the identification with the main group for those who are sympathetic to the movement's cause compared to the nonviolent condition ($b = -2.15$, $SE = .18$, $t = -11.66$, $df = 448$, $p < .01$). For those more resistant the same effect was found, although smaller ($b = -1.23$, $SE = .17$, $t = -7.41$, $df = 448$, $p < .01$).

Next, we examined whether the identification with *the flank group* is influenced by the radical flank dynamic (Hypothesis 2b). Therefore, we conducted the same model but with identification with *the flank group* as the outcome variable (see Table S3). Both interaction terms were significant. The radical flank context significantly decreased the identification with the flank group compared to a condition in which both groups used violent methods (see Figure S27). This effect was stronger for sympathizers ($b = 2.35$, $SE = .17$, $t = 13.90$, $df = 448$, $p < .01$) than for resistant participants ($b = 1.38$, $SE = .17$, $t = 8.17$, $df = 448$, $p < .01$).

Testing the Full Moderated Mediation Model 2

Putting these findings together, we tested the full moderated mediation (equivalent to Model 8, Hayes, 2022) using the package *lavaan* (Rosseel, 2012) in R (see Figure S28). We checked the assumptions for conducting regression analyses, which were not perfectly met for both routes⁷, so we used bootstrapped significance tests. *Route A* analyses identification and support for *the main group*, which represents the moderate group in the radical flank condition, while controlling for identification and support for *the flank group*. *Route B* examines the effects on identification and support for *the flank group*, which is the radical flank in the radical flank condition, while controlling for identification and support for *the main group*.

⁷ The graphs can be found in the supplementary materials.

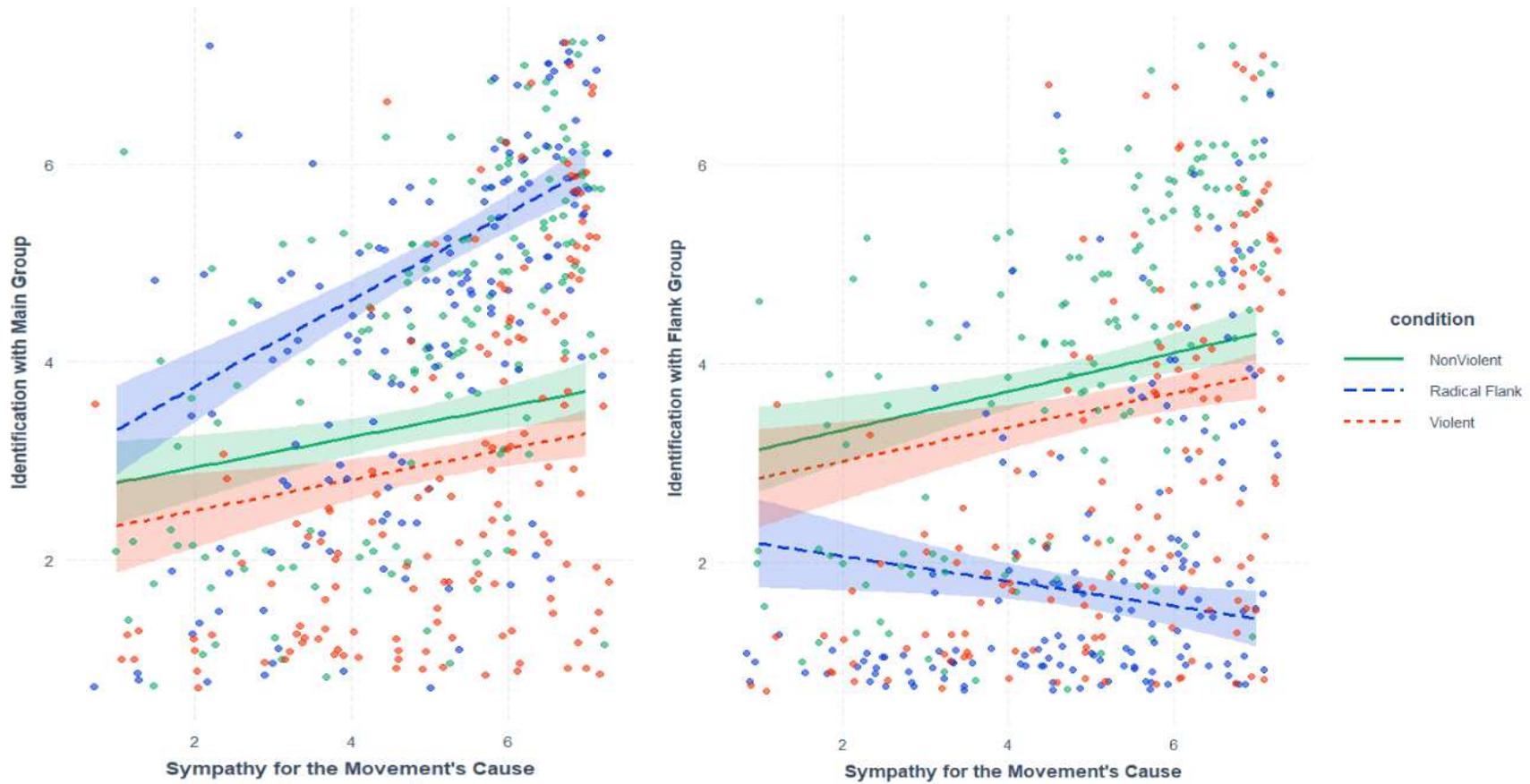
Table S3*Hypotheses 2a and 2b*

<i>Predictors</i>	Identification with <i>Main Group</i>				Identification with <i>Flank Group</i>			
	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>	<i>Estimates</i>	<i>std. Error</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.71	0.26	0.20 – 1.23	0.007	-0.40	0.26	-0.92 – 0.12	0.128
Condition D1: Radical Flank vs. Nonviolent	-0.25	0.37	-0.97 – 0.47	0.490	0.63	0.36	-0.08 – 1.34	0.084
Condition D2: Radical Flank vs. Violent	-0.69	0.38	-1.43 – 0.05	0.068	0.36	0.38	-0.38 – 1.10	0.338
Sympathy for the Movement's Cause	0.44	0.05	0.34 – 0.54	<0.001	-0.13	0.06	-0.23 – -0.02	0.023
Identification with <i>Flank Group</i>	0.71	0.03	0.65 – 0.78	<0.001	-	-	-	-
Identification with <i>Main Group</i>	-	-	-	-	0.71	0.03	0.64 – 0.77	<0.001
Condition D1 X Sympathy for the Movement's Cause	-0.28	0.07	-0.42 – -0.15	<0.001	0.32	0.07	0.18 – 0.46	<0.001
Condition D2 X Sympathy for the Movement's Cause	-0.28	0.07	-0.42 – -0.14	<0.001	0.30	0.07	0.16 – 0.43	<0.001
Observations	455				455			
R ² / R ² adjusted	0.715 / 0.711				0.721 / 0.717			

Note. Regression analyses of Hypotheses 2a and 2b with covariates.

Figure S27

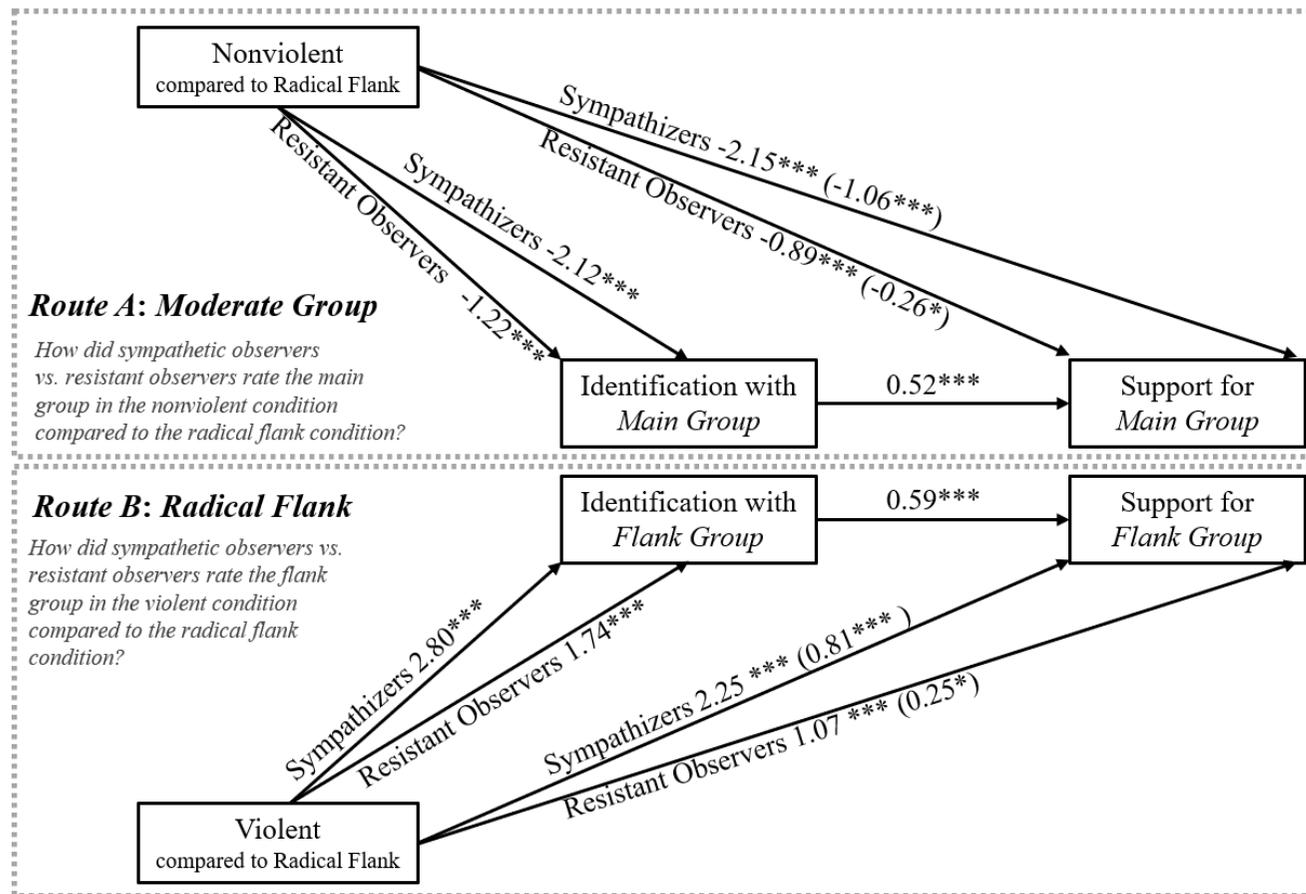
Interaction effect of Hypotheses 2a and 2b with covariates



Note. Plotted regressions visualizing the interaction effects (including the covariate of identification with the respective other group). Nonviolent condition = 149, Radical Flank condition = 156, Violent condition = 150, total $N = 455$.

Figure S28

Model 2



Note. Bootstrapped Route A (Moderate Group) includes the covariates Identification with *Flank Group* and Support for *Flank Group* whereby the radical flank condition is the reference condition (coded as 0, the other as 1). Bootstrapped Route B (Radical Flank) includes the covariates Identification with *the main group* and Support for *the main group* and, again, the radical flank condition is the reference condition (coded as 0, the other as 1). The index of moderated mediation is significant for the comparisons of both routes ($p < .001$). * $p < .05$. *** $p < .001$.

Route A: Moderate Group

Participants in the radical flank condition reported a higher level of identification with *the main group* compared to the nonviolent condition, and this effect was stronger for participants who were sympathizers than for those more resistant. Moreover, the indirect effect of the condition via identification was significant for sympathizers ($b = -1.09$, $SE = .12$, $p < .001$), as well as resistant participants, although smaller ($b = -0.63$, $SE = .09$, $p < .001$). Therefore, we checked the index of moderated mediation, which is the difference between the two indirect effects. It was significant ($b = -0.46$, $SE = .12$, $p < .001$) for the radical flank vs. nonviolent comparison. Overall, this means that *the main group* had *more* support in the radical flank condition than the nonviolent one, especially among sympathizers, and this support was mediated by identification.

Route B: Radical Flank

We examined the differences between the radical flank and the violent condition (see *Route B* of Figure S28), in which *the flank group* is described with the identical text. Participants in the radical flank condition identified less with *the flank group*. This effect was even stronger for sympathizers. Furthermore, the indirect effect of the condition via identification was significant for both sympathizers ($b = 1.65$, $SE = .13$, $p < .001$), as well as resistant participants, although smaller ($b = 1.02$, $SE = .11$, $p < .001$). The index of moderated mediation also revealed a significant difference between the two indirect effects ($b = 0.63$, $SE = .14$, $p < .001$). This means that participants, especially sympathizers, supported *the flank group less* in the radical flank condition and *more* in the violent condition.

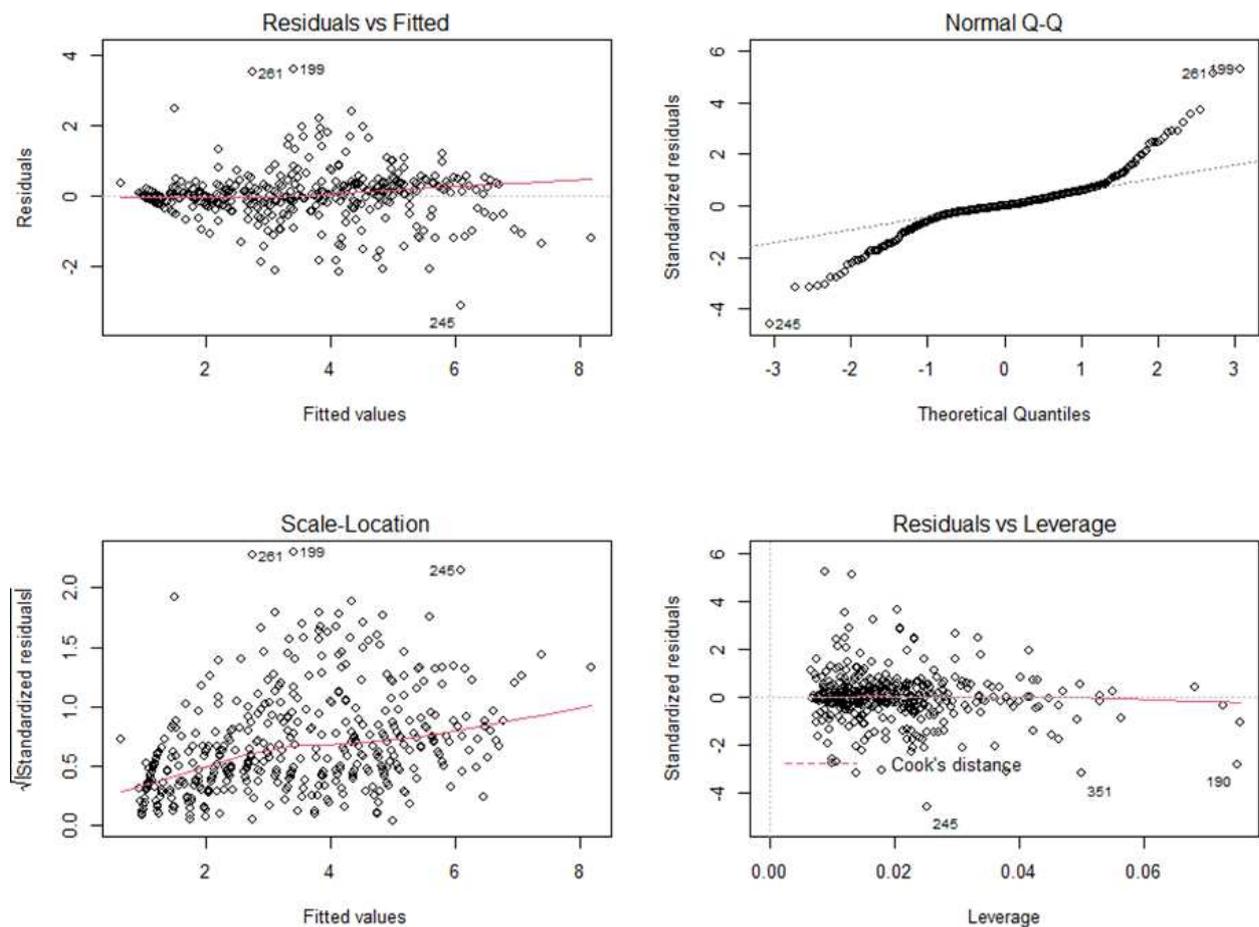
In sum, the model with covariates indicate that the moderate group benefited from the direct contrast with the extreme group, and won support from sympathetic observers, while the radical flank lost support. Importantly, the magnitude of the effects was moderated by the participants' attitudes towards the environment: Observers who were sympathetic towards the movement's cause reacted more strongly both positively and negatively towards the chosen tactics. Overall, the described effects primarily occurred among sympathizers.

Assumption Checks: Including Covariates

We used the graphs to check the linearity assumption (Residuals vs. Fitted), normality of residuals (QQ-plot), and homoscedasticity (Scale-Location). Furthermore, we investigated the Residuals vs. Leverage-plot to identify unusually influential data points. Below, we present the diagnostic graphs of the *Route A* (Figure S29 and S30) and *Route B* (Figure S31 and S32) including the covariates.

Figure S29

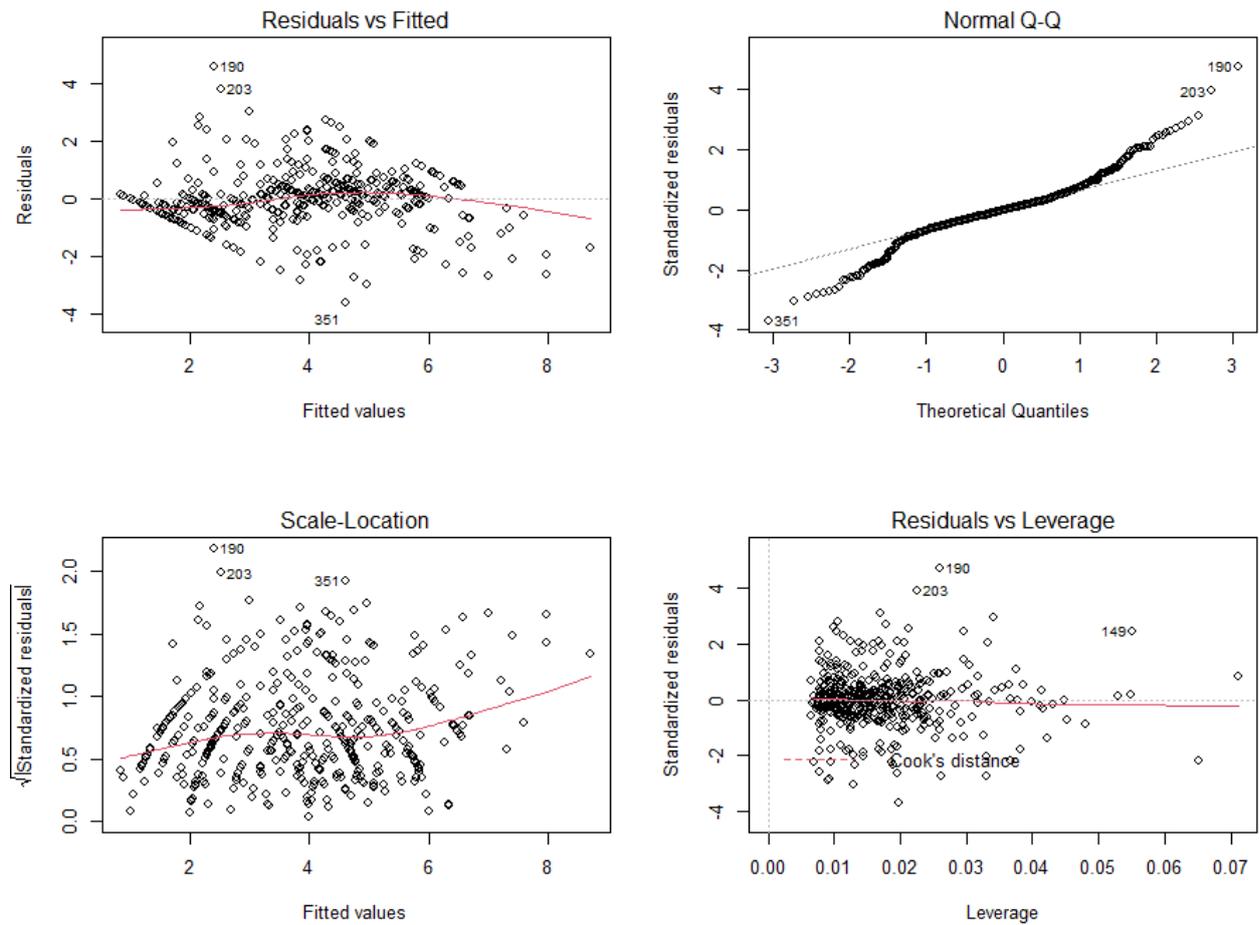
Visual Assumption Checks Route A including covariates



Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Support for the Main Group*.

Figure S30

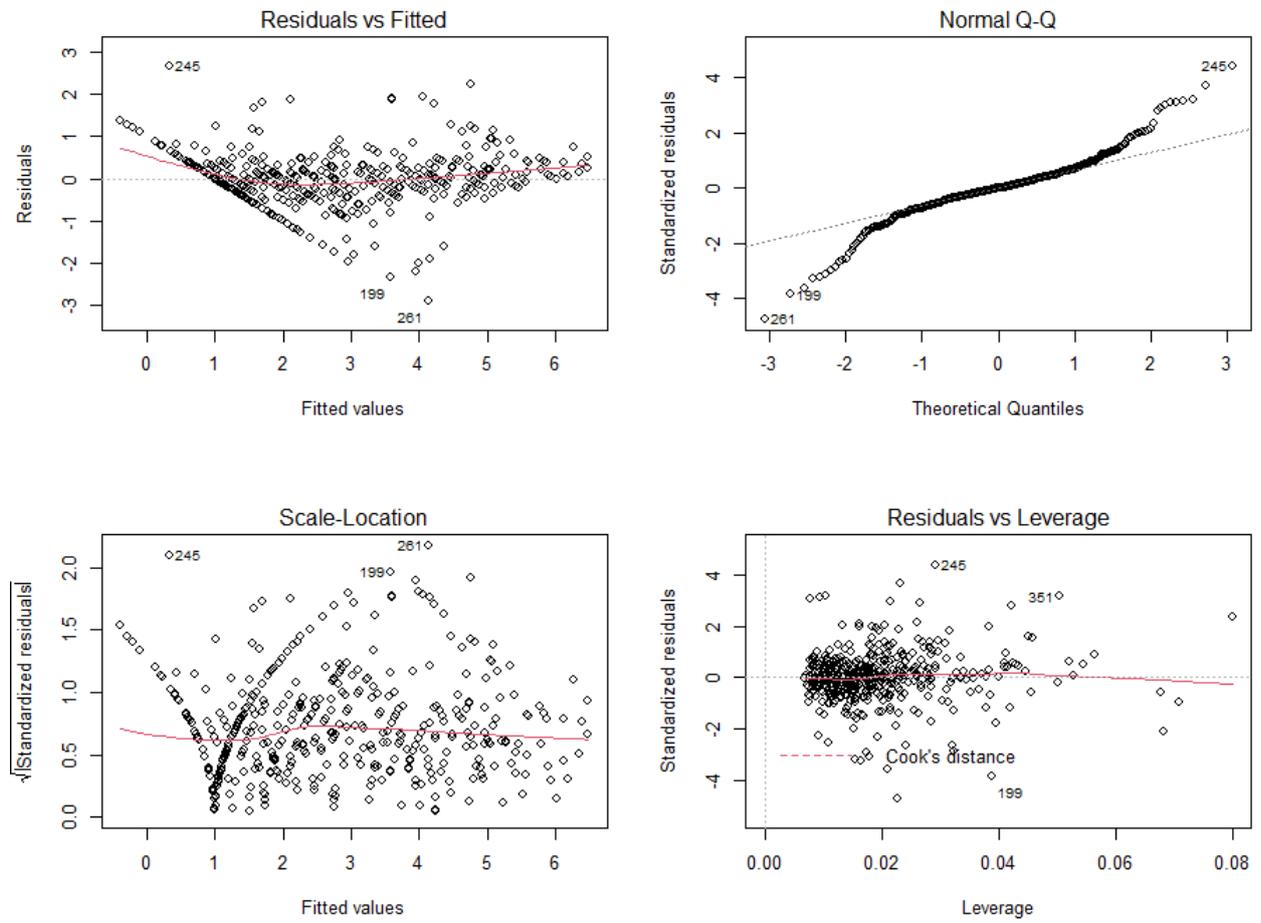
Visual Assumption Checks Route A including covariates



Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Identification with the Main Group*.

Figure S31

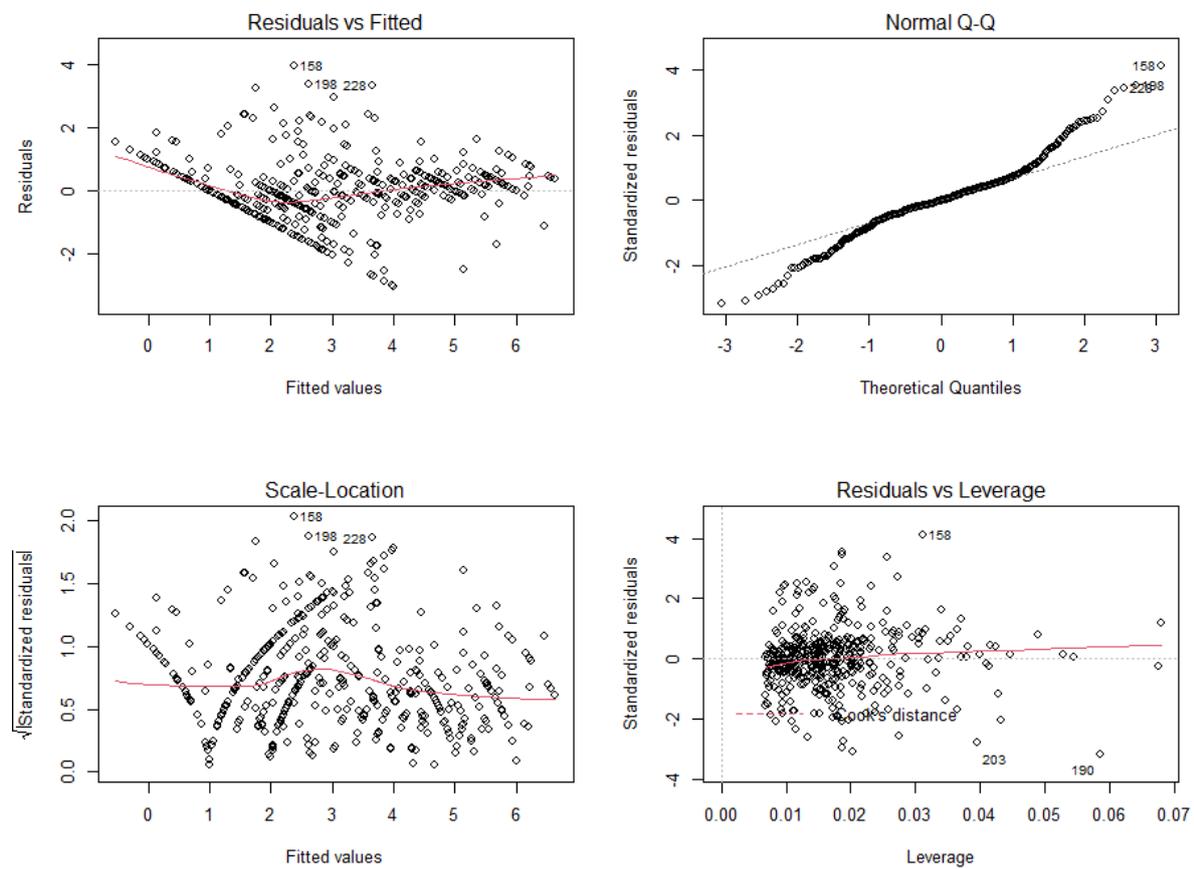
Visual Assumption Checks Route B including covariates



Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Support for the Flank Group*.

Figure S32

Visual Assumption Checks Route B including covariates



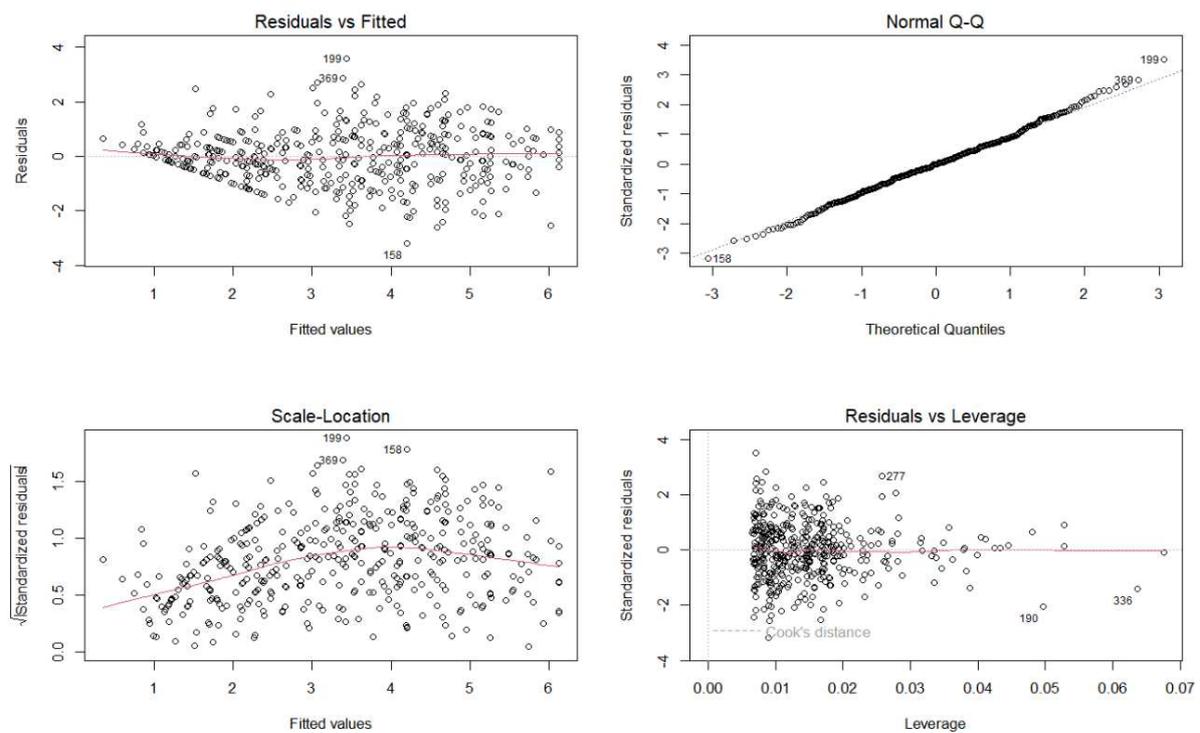
Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Identification with the Flank Group*.

Assumption Checks: Without Covariates

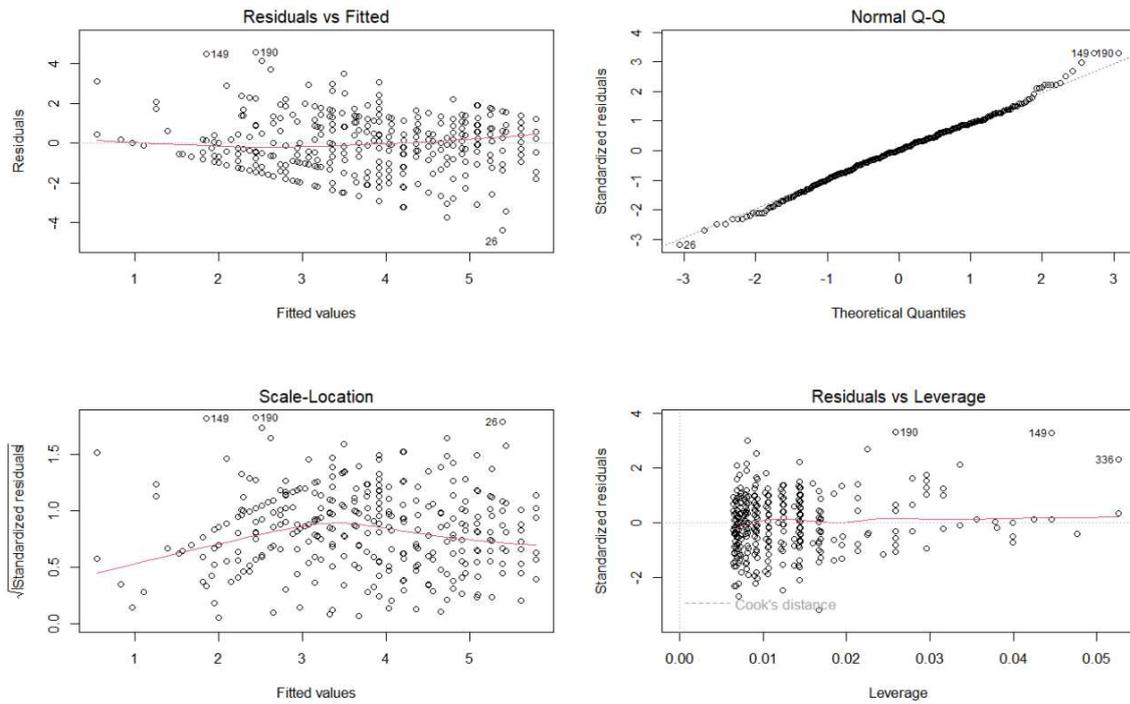
We used the graphs to check the linearity assumption (Residuals vs. Fitted), normality of residuals (QQ-plot), and homoscedasticity (Scale-Location). Furthermore, we investigated the Residuals vs. Leverage-plot to identify unusually influential data points. Below, we present the diagnostic graphs of the *Route A* (Figure S33 and S34) and *Route B* (Figure S35 and S36) including the covariates.

Figure S33

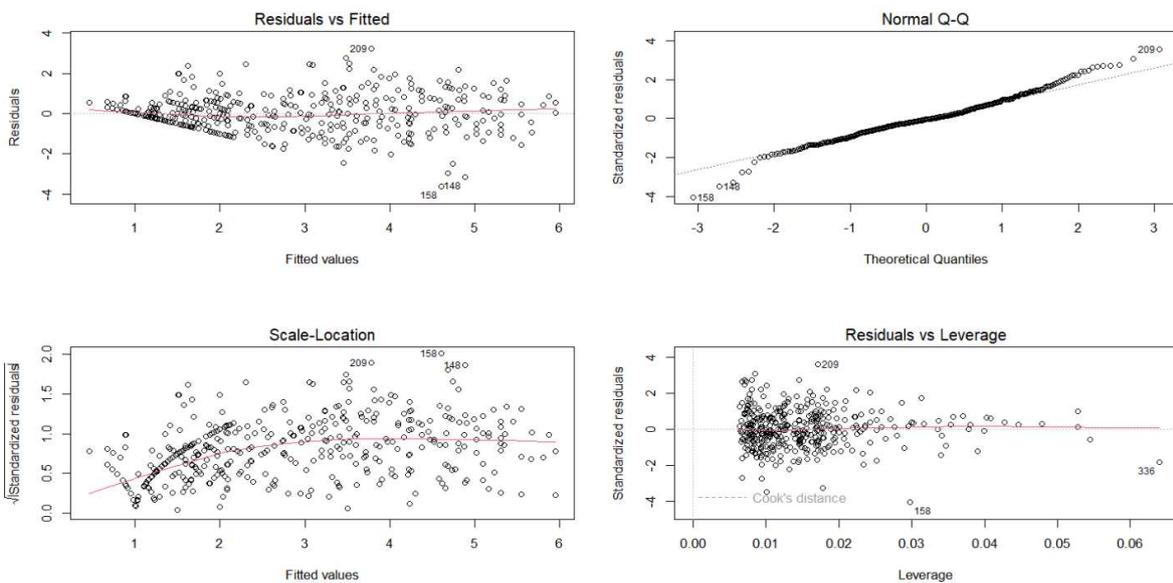
Visual Assumption Checks Route A without covariates



Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Support for the Main Group*.

Figure S34*Visual Assumption Checks Route A without covariates*

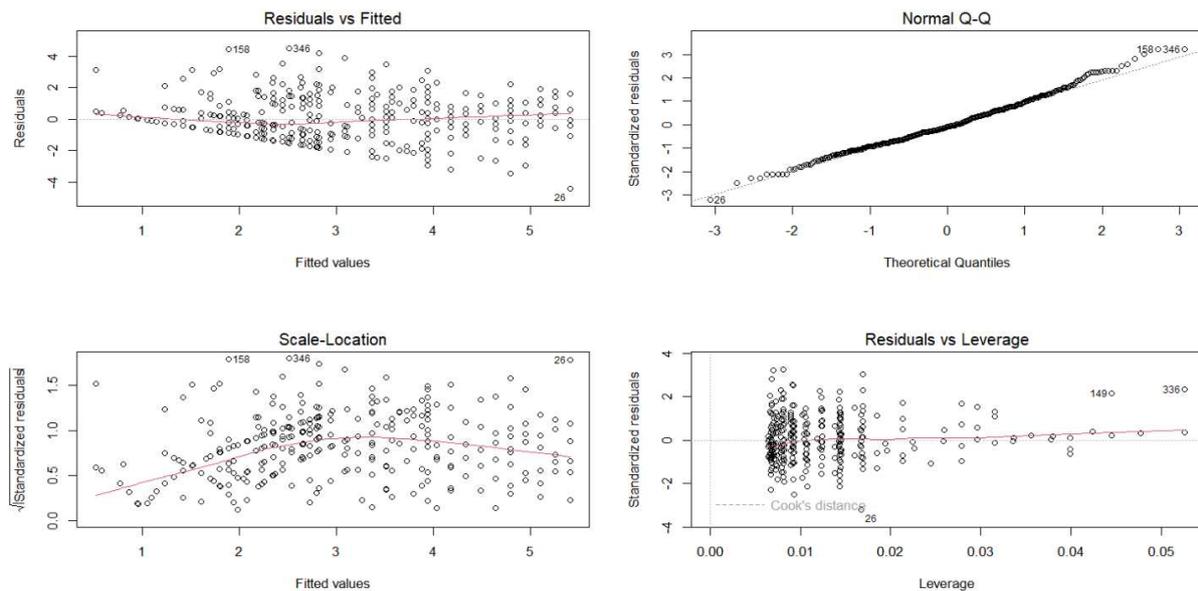
Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Identification with the Main Group*.

Figure S35*Visual Assumption Checks Route B without covariates*

Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Support for the Flank Group*.

Figure S36

Visual Assumption Checks Model B without covariates



Note. Diagnostic plots revealing the distribution of the residuals based on the regression analysis with the dependent variable *Identification with the Flank Group*.