The effects of different protest tactics and messaging strategies on attitudes towards animals

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Executive summary

Animal farming results in the large-scale suffering of animals and in considerable emissions that drive climate change. Currently, animal activist groups seek to guide society towards a greater focus on animal rights and a (more) plant-based food system. However, it is unclear which sorts of protest campaigns and messaging strategies have the best chance of persuading people.

- We conducted an online experiment in which 4757 British participants (pre-selected to have positive attitudes towards animals) were randomly assigned to a control condition or to one out of nine experimental conditions. These consisted of specially created news article excerpts that described one of three protest campaign types (horse race disruptions, open rescues of sheep, KFC drive-thru blockades) alongside one of three messaging strategies (norms/values-led, problem-led, solution-led).
- We evaluated the effect of the different campaign types and messaging strategies on people’s attitudes towards animals, their support for pro-animal policies, and their willingness to take action for animal rights.
- Overall, most types of disruptive animal rights protests negatively affected participants in all outcome measures.
- KFC drive-thru blockades had larger negative effects compared to horse race disruptions and to a lesser extent compared to open rescues.
- Solution-led messaging had larger negative effects compared to norms/values-led messaging and to a lesser extent also compared to problem-led messaging.
Introduction

Animal farming practices result in the suffering of billions of animals per year, as well as a substantial release of carbon dioxide and methane gas into the atmosphere (Costa Jr et al., 2022; Reisinger et al., 2021; Scarborough et al., 2014). Most people have empathy for animals, and also agree that climate change is a major threat. However significant changes to animal farming or to society’s treatment of animals do not seem to be on the horizon. A number of factors hamper social change. First, eating habits are deeply ingrained cultural behaviours (Modlinska & Pisula, 2018); many people have a strong emotional connection to food and find it hard to forego dishes they grew up with, which often include meat and other animal products (Gradidge et al., 2021; Modlinska & Pisula, 2018). Second, there is a persistent idea that animal products provide nutrients that cannot readily be replaced in a vegan (or vegetarian) diet (Graça et al., 2015). Third is the meat paradox: the contradiction between people seeing themselves as animal lovers, yet simultaneously contributing to substantial animal suffering by eating animals (Gradidge et al., 2021). The meat paradox is striking because the robustly evidenced phenomenon of ‘cognitive dissonance’ typically makes it uncomfortable for people to hold contradictory beliefs or behaviours (Festinger, 1962). Research suggests that people escape this dissonance by conceiving animal products not as parts of animals but as generic ‘food items’, allowing them to suppress concerns for the animals themselves (Loughnan et al., 2010). Because of these factors, animal advocates face an uphill battle. The present study investigates the public opinion effects of various disruptive animal rights protest campaigns using different messaging strategies.

There are many historical examples (civil rights, women’s rights, equal marriage) where social movements have successfully accelerated change on society’s morally questionable behaviours. Animal advocacy groups have been working towards change in many ways: persuading corporations to increase animal welfare standards, pushing lawmakers to introduce pro-animal legislation, and using a range of other direct and indirect methods.
Social movements often make the case that winning over the public is a crucial step towards more dramatic social change. In this spirit, Animal Rising conducted a series of protests in the UK in 2023 that – at least in recent history – was highly ambitious in terms of scale, media attention, and the public conversation it has sparked.

We recently conducted a nationally representative pre-post survey study of Animal Rising's Grand National horse race protest. The protest was covered in all main UK news outlets allowing us to test with high statistical sensitivity how it affected public opinion on animal rights/welfare issues. The results suggested that immediately after the protest people's attitudes towards animals worsened as a function of how much they had heard about the protest, pointing to negative public opinion effects of such protest campaigns. Interestingly, such negative effects were not seen six months after the protest, suggesting that they do not reflect lasting attitudinal change. A primary goal of the present study is to add to the experimental evidence on how disruptive animal rights protests affect public opinion. Further, we assessed whether certain protest types and/or messaging strategies are more persuasive than others in shifting people’s attitudes to animals.

Successful messaging strategies can legitimise a social movement's actions, unify its members, and inspire greater support (Benford & Snow, 2000; Bob, 2005; Gamson, 1992; Snow & Benford, 1988; Wouters & Walgrave, 2017). To the extent that activists' messages indeed reach the public, they are likely to have an impact on people's attitudes towards the protest and the underlying issues, as previous research indicates that the same protest can be perceived very differently depending on the narrative that is used (McLeod & Detenber, 1999; Shanahan et al., 2011). A key question is which messaging strategies are most likely to have such positive effects.

In the present study we focused on messaging strategies that Animal Rising is considering and has considered in the past, namely, values/norms-led (focusing on the compassion that most people have for animals), problem-led (focusing on the animal suffering and climate impacts of animal farming), and solution-led messaging (focusing on the potential
solution of a plant-based food system). The scientific literature on framing effects (Tversky & Kahneman, 1981, 1988) provides clues on which approaches may fare better than others. Aligned with the messaging types mention just above, ‘frame theory’ (Benford & Snow, 2000; Snow & Benford, 1988) distinguishes between diagnostic (focusing on the problem), prognostic (focusing on possible outcomes and solutions), and motivational frames (focusing on motivations that might compel people to change). A common intuition regarding societal issues, such as climate change, is that if people can be convinced of the scientific consensus, they will tend to increasingly favour climate action and engage in more pro-environmental behaviour (Bain et al., 2012). It is equally intuitive that presenting solutions is important. However, research on climate sceptics (Dixon et al., 2017) and deniers (Bain et al., 2012) indicates that it may instead be crucial to use messaging that is aligned with the target audience’s core values. In the context of animal rights/welfare, we similarly predicted that norms/values-led messaging would be the most effective. To assess the effectiveness of values/norms-led, problem-led, and solution-led messages, these messaging strategies were integrated into three types of protest relevant to contemporary animal protesters: horse race disruptions, open animal rescues (where activists remove animals from factory farms etc.), and blockades (where activists blockade access to places (here; a KFC drive-thru) to make a symbolic statement.

**Results**

We pre-selected participants (N=4757) who show above-average concern for animals while neither being involved in animal advocacy nor being vegan (see the Methods section for details). This group was thought most likely to change their attitudes as a result of the intervention employed. Participants were randomly assigned to one of ten conditions: either one of the combinations of campaign/message pairs listed below or a neutral control condition (a vignette about fashion). The stimuli were vignettes introduced as newspaper article excerpts. All had the following structure: first, an introductory text describing the protest; second, a quote from an Animal Rising spokesperson; third, further details on the
protest, and finally an additional AR spokesperson quote. The quotes differentiated the message type while the descriptive text differentiated the campaign type. The full set of stimuli can be found in the Appendix.

We evaluated the effects of the experimental conditions on three outcome variables: 1) scores on the Animal Solidarity scale (Amiot & Bastian, 2017), 2) support for Animal Rising's main goals, and 3) willingness to engage in animal advocacy.

**Animal Solidarity scores**

The Animal Solidarity scale was developed to quantify people's “sense of belonging, psychological attachment, and closeness felt toward other animals” (Amiot & Bastian, 2017, p. 2). As such, it can be seen as a general measure of how favourable people's attitudes towards animals are.

The first analysis (see Figure 1) tested the effects of the three campaign types, of the three different messaging strategies, and their interaction (by crossing the factors message type and campaign type). Firstly, regarding the different campaign types it revealed that the horse race campaign was linked with higher Animal Solidarity scores compared to the open rescue (estimate=0.27, 95% CrI [0.20, 0.34]) as well as the KFC blockade campaigns (estimate=0.35, 95% CrI [0.28, 0.42], and open rescues had higher Animal Solidarity scores than KFC blockades (estimate=0.08, 95% CrI [0.02, 0.15]). It further revealed an effect of messaging strategy such that norms/values-led messaging (estimate=0.19, 95% CrI [0.12, 0.25]) and problem-led messaging (estimate=0.14, 95% CrI [0.07, 0.21]) performed better than solution-led messaging.

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1 We refrained from performing post-hoc pairwise comparisons looking into interaction effects because splitting up effects by message and campaign type would amount to doing essentially the same thing that the second analysis (that treats all messages as separate conditions) already accomplishes.
Figure 1. Predicted Animal Solidarity scores per message (norms/values-led, problem-led, solution-led) and campaign type (horse race disruption, KFC drive-thru blockade, open rescue), along with 95% credible intervals around the estimate.

A second linear regression analysis treated each of the ten stimuli as a separate unique experimental condition. By using the control condition as the baseline, we compared all the nine treatment conditions of interest to the control condition. This allowed us to test which conditions had significant positive or negative impacts on people's attitudes towards animals compared to a neutral baseline. The horse race campaign combined with a values/norms-led message was associated with higher Animal Solidarity scores relative to the control condition (estimate=0.16, 95% CrI [0.05, 0.27]), as was, to a smaller extent, the horse racing campaign combined with a problem-led message (estimate=0.12, 95% CrI [0.01, 0.23]). Five conditions were associated with significantly lower scores relative to the control: Open rescue with values/norms-led messaging (estimate=-0.12, 95% CrI [-0.23, -0.01]), KFC blockade with values/norms-led messaging (estimate=-0.12, 95% CrI [-0.23,
KFC blockade with problem-led messaging (estimate=-0.29, 95% CrI [-0.40, -0.18]), open rescue with solution-led messaging (estimate=-0.32, 95% CrI [-0.43, -0.21]), and KFC blockade with solution-led messaging (estimate=-0.33, 95% CrI [-0.44, -0.22]). The remaining two conditions (horse racing with solution-led messaging and open rescue with problem-led messaging) did not differ measurably from the control condition.

**Figure 2.** Forest plot showing the estimated effects of each experimental condition relative to the control condition, along with 66% (thick line) and 95% (thin line) credible intervals around the estimates, and the posterior probability densities overlaid in grey.

In summary, both analyses find that the horse race campaign, particularly when combined with the norms/values-led message, was associated with the highest Animal Solidarity...
scores. Generally, most conditions were associated with lower scores than the control condition.

**Support for Animal Rising’s goals**

The same analyses were conducted on the composite score reflecting participants’ support for Animal Rising’s goals. Overall, the results were similar with two general differences: 1) No conditions were associated with higher scores than the control condition. 2) The spread between conditions was smaller, i.e. support for AR’s goals was not affected as much by the different experimental conditions compared to Animal Solidarity scales.

The crossed factorial analysis (see Figure 3) indicated a small effect of campaign type reflecting the pattern that the open rescue conditions were associated with lower support for AR’s goals compared to horse racing (estimate=-0.11, 95% CrI [-0.20, -0.01]) and KFC blockade campaigns (estimate=-0.10, 95% CrI [-0.19, -0.01]). There was also a small effect of message type driven by solution-led messaging performing worse than problem-led messaging (estimate=-0.11, 95% CrI [-0.20, -0.01]).
**Figure 3.** Predicted support for AR's goals per message and campaign type, along with 95% confidence intervals around the estimate.

The linear regression analysis comparing all treatment conditions to the control condition (see Figure 4) indicated that several conditions trended towards a negative effect relative to the control condition (especially KFC blockade with solution-led messaging coming very close (estimate=-0.13, 95% CrI [-0.27, 0.01]), and two conditions had a robust negative effect: open rescue with norms-led messaging (estimate=-0.20, 95% CrI [-0.35, -0.06]), and open rescue with solution-led messaging (estimate=-0.24, 95% CrI [-0.38, -0.09]).
Figure 4. Forest plot showing the estimated effects of each experimental condition relative to the control condition, along with 95% confidence intervals around the estimates.

Overall, the results suggest that support for AR's goals was affected negatively by most of the treatment vignettes relative to the control condition. The different campaign types and messaging strategies affected support for AR's goals quite similarly. In line with the Animal Solidarity results, solution-led messaging has the most pronounced negative effects. Open rescue campaigns affected support for AR's goals particularly negatively.
Willingness to act

Finally, we assessed the effect of the different experimental conditions on people’s willingness to act, a composite score of people’s willingness to donate to an animal rights activist group, contact their local MP about animal welfare, and participate in a peaceful animal rights protest.

The crossed factorial analysis (see Figure 5) only revealed an effect of campaign type, reflecting the pattern that the horse race campaign was associated with higher willingness to act compared to KFC blockades (estimate=0.16, 95% CrI [0.05, 0.27]) and open rescues (estimate=0.12, 95% CrI [0.01, 0.22]).

![Figure 5](image-url)

**Figure 5.** Predicted willingness to act per message and campaign type, along with 95% confidence intervals around the estimate.
The regression analysis comparing all treatment conditions to the control condition indicated that most of the conditions were associated with significantly lower willingness to act than the control condition (see Figure 6): horse racing disruption with solution-led messaging (estimate=-0.18, 95% CrI [-0.33, -0.02]), KFC blockade with values/norms-led messaging (estimate=-0.19, 95% CrI [-0.35, -0.03]), KFC blockade with problem-led messaging (estimate=-0.27, 95% CrI [-0.43, -0.10]), KFC blockade with solution-led messaging (estimate=-0.30, 95% CrI [-0.46, -0.15]), open rescue with norms/values-led messaging (estimate=-0.28, 95% CrI [-0.43, -0.13]), open rescue with solution-led messaging (estimate=-0.23, 95% CrI [-0.39, -0.08]).

Figure 6. Forest plot showing the estimated effects of each experimental condition relative to the control condition, along with 95% confidence intervals around the estimates.
Thus, similar to the results above regarding Animals Solidarity scores and support for AR's policy goals, willingness to act was negatively affected by nearly all experimental vignettes relative to the control condition. Again, the horse racing campaign was associated with milder negative effects.

**Discussion**

Overall, the results suggest that people's attitudes are negatively affected by exposure to disruptive animal rights protests. Most of the experimental conditions either trended towards or had a significantly negative effect compared to the control condition. This pattern was most pronounced for people's willingness to act, followed by their support for Animal Rising's goals. Only when looking at Animal Solidarity scores were there two conditions (horse race disruption with values/norms-led messaging and problem-led messaging) with a significant positive effect.

Animal Rising disrupted the 2023 Grand National horse race, triggering a considerable media reaction and a debate on the use of animals for entertainment. We previously reported on a poll before and after the protest to assess its public opinion impacts. The evidence suggested that people's attitudes toward animals worsened as a function of how much they had heard about the protest, suggesting that the protest negatively impacted public opinion. Here, we sought to investigate in a controlled experimental setting how different protest campaign types and messaging strategies affect people's attitudes towards animals, their support for Animal Rising's goals, and their willingness to take action for animals. We looked specifically at people whose attitudes towards animals are already quite positive (score 5 or higher on the Animal Solidarity scale) but who are neither vegans nor engaged in animal advocacy. These people constitute the primary target group for animal rights groups such as AR, because they are the most likely to develop more pro-animal views and behaviours if nudged in that direction.
Our results revealed interesting differences between the different campaign types and messaging strategies. Overall, the data suggest that horse racing campaigns have less of a negative effect than KFC blockades and open rescues, and that norms/values-led messaging is more effective than problem-led and solution-led messaging (even though it too was generally associated with negative effects relative to the control condition). Solution-led messaging was associated with the most negative effects across measures. In more detail, the results indicated that regarding Animal Solidarity scores, norms/values-led messaging and the horse race disruption campaign had more positive effects than the other conditions. By contrast, KFC blockades were associated with the lowest Animal Solidarity scores, especially in the context of solution-led messaging. Regarding support for AR's goals, horse racing campaigns again did relatively better, with open rescue campaigns doing particularly poorly, and solution-led messaging again having the strongest negative impact. Regarding willingness to act, most conditions had robust negative effects relative to the control condition. Again, horse racing campaigns had more positive effects compared to the other campaign types.

What can account for the differences between messages? It is well established that most people are strongly influenced by what others do or think (Cialdini & Goldstein, 2004; Miller & Prentice, 2016). This is in part because people's actions and beliefs are cues to social norms (Asch, 1955). Perceived norms are highly dynamic (Sparkman & Walton, 2017), making them an attractive target for framing effects. Indeed, previous studies suggest that messaging strategies that highlight societal norms can be very effective at inciting pro-environmental behaviour (Cialdini et al., 1990; Cialdini & Goldstein, 2004; Goldstein et al., 2008). Moreover, framing effects can be exploited in order to appeal to people's core values (Dixon et al., 2017). For instance, climate change deniers can be motivated to engage in pro-environmental behaviour if climate action is framed in terms of the care we feel towards one another or the technological (and other) improvements we can make as a society (Bain et al., 2012). It is likely that the values/norms-led messages had less detrimental effects compared to the other messaging types because they combined the
strengths of normative and value-based messaging strategies, thereby offsetting the general negative effect of vignettes about animal rights protest.

What can account for the differences between campaign types? We see two main alternative explanations: 1) In April 2023, Animal Rising disrupted the Grand National horse race and received so much media attention that an estimated 50% of the UK population heard about it. Those participants who were exposed to reporting about the protest have had time to think about the rationale behind it so might better understand what the activists are doing in the vignettes presented here. 2) Alternatively, horse race disruptions might inherently be viewed more favourably compared to open rescues and KFC blockades. This could be because delaying a horse race is seen as less immoral compared to stealing animals from a farm or physically blocking people from getting the dinner they desire. Moreover, polling suggests that people are more willing to give up horse racing than eating meat (which is what the open rescue and KFC campaigns are more overtly targeting). A follow-up analysis indirectly supports the latter explanation: we ran a model that again predicted Animal Solidarity scores with the ten vignettes and additionally included a factor reflecting people's awareness of the Grand National horse racing protest and its interaction with the effect of the vignettes. Explanation 1 predicts a positive interaction effect, such that people who have heard more about the Grand National protest would be affected more positively by the horse race disruption conditions. Instead, there was an opposite trend. Our results suggest that horse race disruptions had more positive/less negative effects in all outcome measures we considered, and they indicated that this cannot simply be explained by the fact that similar high-profile protests have occurred this year. Previous experimental work suggests that negative public opinion effects of radical protest are particularly likely if the protests are perceived to be immoral (Feinberg et al., 2020). Open rescues and blockades might be perceived as more immoral and confrontational, as open rescues can be viewed as stealing and KFC drive-thru blockades physically hinder people from obtaining the food they desire. Additionally, horse race disruptions are likely to be
perceived as criticisms of the use of animals for entertainment, which people are more ready to give up or change compared to the use of animals for food.

In the present study, as well as in a recent one on Animal Rising's Grand National protest, we observed negative public opinion impacts immediately following disruptive animal rights protests. The largely negative effects reported here were observed despite the fact that the sample tested in the present study was pre-selected to be relatively favourable towards animals. Our previous nationally representative polling work on the short-term effects of the Grand National protest indicated that the more unfavourable somebody's attitudes are towards animals, the more negative the effects of disruptive animal rights protests (but see the paragraph below for long-term effects). As such, the current study is likely to underestimate the negative effects on the public at large. In the context of climate protests, such negative effects were not seen in recent studies, with some reporting null effects and others reporting positive impacts (Bugden, 2020; Gonzatti et al., n.d.; Kenward & Brick, 2023). There are several reasons why disruptive protest tactics might have a higher chance of producing negative public opinion effects in the animal advocacy domain, as opposed to the climate movement. First, there is more widespread agreement that climate change is a serious problem and that we need to do something about it. Even though animal farming is directly related to the climate crisis, there generally is relatively low agreement that animal farming needs to change urgently. Relatedly, climate change is a much more salient issue that is being discussed in the media on a daily basis. A recent expert survey suggests that disruption is more likely to have positive effects if the issue has high salience and public support.

Zooming out, the present results confirm our previous polling results in showing that, in the short term, disruptive animal rights protests may have negative impacts. These extend to people’s attitudes towards animals, their support for changing how we treat animals in society, and their willingness to do something about it. However, we recently published new research which suggests that the initial backlash effects due to disruptive animal rights
protests do not last. When doing a six-month follow-up looking at the longer-term effects of AR’s Grand National protest, we saw that people’s knowledge of the protest activities was linked with worsened attitudes towards animals immediately after the protest, but not six months later. Moreover, it is likely that any attitudinal changes due to exposure to an actual real-world protest are generally stronger than those triggered by a short vignette describing a protest. Hence, we view it as likely that the negative effects obtained here do not reflect lasting changes in people’s attitudes, but rather a temporary phenomenon mediated by a strong emotional response to the protests. At present it is not known how long such effects are expected to last. Even though these effects are temporary, we believe that the relative differences between different campaign types and messaging strategies provide important insights into possible consequences of activists’ strategic choices. Additional longitudinal data are needed to determine the extent to which AR’s disruptive tactics contribute to pro-animal shifts in the long run.
Methods

Participants

The study focused on animal lovers who are neither vegans nor animal advocates \((N = 4757)\). These people are hypothesised to be those for whom differences in protest tactics are most likely to matter – people who are already animal advocates are likely to already have very favourable attitudes towards animals, while people with low concern for animals are unlikely to shift their views regardless of the protest campaign or message. After all, the intervention used here merely consists of a relatively short text. We ran a screening study on Prolific with 15915 participants with the goal of finding at least 5000 participants who scored (on average) at least 5 out of 7 on the Animal Solidarity Scale (see below), who are not vegans and who have not engaged in animal advocacy in the last 12 months. Specifically, we only selected participants who indicated not having:

- Attended an event, protest or demonstration related to animal welfare or rights for animals
- Volunteered with an animal rights or welfare organisation
- Donated to an animal rights or welfare organisation

Out of the 15915 participants, 5683 (35.7%) fulfilled all our requirements and were invited to participate in the main experiment. 4757 completed the survey.

We took two measures to account for participants possibly not being very attentive. Firstly, we included an attention check that said that when asked about their favourite sports, one should select “tennis”. People who did not select “tennis” were excluded from the analysis. Secondly, we had a challenging comprehension check: Participants had to select which out of a number of things were mentioned in the text.

- Animal activists disrupted a horse race and criticised the exploitation of animals for entertainment and food
• Animal activists rescued sheep from a farm and criticised the exploitation of animals for entertainment and food
• Animal activists blockaded KFC drive-thrus and criticised the exploitation of animals for entertainment and food
• Animal activists disrupted a horse race and encouraged spectators to boo the jockeys
• Animal activists rescued sheep from a farm and brought them back shortly after
• Animal activists blockaded KFC drive-thrus and handed out vegan burgers for free
• A fashion designer is having great success with a unisex mix and match suit

This is a relatively difficult comprehension check because for all treatment conditions, there is one incorrect answer that is quite similar to the correct one. 94.5% passed the comprehension check. We included performance on the comprehension check as a covariate in the analyses to account statistically for potential differences between conditions in how attentive participants were.

Design

Participants were randomly assigned to one out of 10 conditions. In each experimental condition, participants read a short description of one out of three campaign types (a horse race disruption, an open animal rescue, or a KFC drive-thru blockade). Then, they were presented with a message; a short paragraph in which a spokesperson makes the case for a move away from a world in which animals are exploited for fun and food. There were three different message types: values/norms-led, problem-led, and solution-led. The values/norms-led messages appeal to the love people feel for animals and the desire people have to do the morally right thing. The problem-led messages stress the repercussions of animal exploitation for the animals and for nature. The solution-led messages highlight a plant-based system as a solution. The messages were constructed
such that they were equal in length (+/- 5 words) and only differed in key elements needed to distinguish the different campaign and messaging types. The vignettes resembled how people might read about them in a newspaper. In addition, there was a neutral control condition without mentions of campaigns and without an animal-related message, which talked about fashion trends. This is necessary to evaluate whether messages are better than a neutral baseline condition and whether there are backfire/boomerang effects (conditions performing having a negative effect on attitudes towards animals).

Half of the problem-led and solution-led messages referenced climate issues, the other half focused on animal suffering. This allowed us to test whether one is more effective than the other. However, no differences were observed between the two versions, which is why the statistical analyses forewent this distinction.

The group Animal Rising is occupying livestock farms and liberating animals from farms. They argue that these animals endure high levels of suffering and they want to save them from being slaughtered for food. Animal Rising wants to bring attention to our broken relationship with animals and nature.

Five sheep were taken from Jeremy Clarkson's farm over the weekend when a group of animal activists broke into the sheds and rescued the animals. Supporters of the grassroots organisation Animal Rising have claimed responsibility for taking livestock animals from the Lickety Spit farm, made famous on Clarkson’s Amazon Prime TV series.

<table>
<thead>
<tr>
<th>Norms/values-led</th>
<th>Problem-led</th>
<th>Solution-led</th>
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<tbody>
<tr>
<td>Orla Coughlan, a spokesperson for Animal Rising, said: “Most people would want to rescue an animal in distress, because everyone knows that's the right thing to do. We all want to be the kind of people who act on our</td>
<td>Orla Coughlan, a spokesperson for Animal Rising, said: “We've broken our natural bond with animals, exploiting them both for fun and for food. It's this broken relationship that is at the heart of the climate and</td>
<td>Orla Coughlan, a spokesperson for Animal Rising, said: “We liberated these animals today to call for a vegan future that fixes our broken relationship with animals. The solution has to be stopping the harm, whether that's</td>
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values, and that’s why we rescued these sheep today. Yet, as a society we keep on exploiting and killing animals for food.”

The protesters say they have handed the sheep over to an animal sanctuary, but refuse to give its location. Jeremy Clarkson, who has suffered criticism of his farming methods, has been asked for comment.

Coughlan continued: “What we’re asking for is a national conversation about the kind of society we want to be. We believe that as a society we can be better, and live in accordance with the love we have for animals.”

| nature emergency we’re facing. Animal agriculture is a leading cause with up to a fifth of all our emissions coming from the food system.” |
| The protesters say they have handed the sheep over to an animal sanctuary, but refuse to give its location. Jeremy Clarkson, who has suffered criticism of his farming methods, has been asked for comment. |
| exploiting animals for fun or exploiting them for food.” |
| The protesters say they have handed the sheep over to an animal sanctuary, but refuse to give its location. Jeremy Clarkson, who has suffered criticism of his farming methods, has been asked for comment. |

Coughlan continued: “A plant-based food system is the only reasonable solution to the moral wrong of exploiting and killing animals for food, and it will help us tackle the climate emergency at the same time. Our solution is a much safer, more secure, and more sustainable plant-based food system we can all be proud of.”

Table 1. The stimuli used in the open rescue conditions. This is presented here to help the reader get an idea of what the different conditions looked like. The full list of stimuli can be found in the Appendix.

Outcome variables

The main outcome variables were participants’ average score on the animal solidarity scale, their support for AR’s demands, and their willingness to act (see below). The Animal Solidarity scale was developed to quantify people’s “sense of belonging, psychological attachment, and closeness felt toward other animals” (Amiot & Bastian, 2017, p. 2). Scores on the scale predict pro-animal behaviours and attitudes above and beyond previous
similar scales and are thus a good proxy for how favourable somebody's attitudes towards animals are (Amiot & Bastian, 2017).

<table>
<thead>
<tr>
<th>Items</th>
<th>Descriptive Statistics</th>
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<tbody>
<tr>
<td>Item 1: I feel a strong bond toward other animals</td>
<td>4.97</td>
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<tr>
<td>Item 2: I feel solidarity toward animals</td>
<td>4.84</td>
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<tr>
<td>Item 3: I feel close to other animals</td>
<td>4.57</td>
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<tr>
<td>Item 4: I feel a strong connection to other animals</td>
<td>4.17</td>
</tr>
<tr>
<td>Item 5: I feel committed toward animals</td>
<td>4.35</td>
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*M* = Mean; *SD* = Standard Deviation.

Table: Animal solidarity scale

We measured support for AR's demands (7-point Likert scale) by asking people about their main demands as stated on their webpage and used the average score as the dependent variable (Cronbach's alpha = 74.5%):

- To which extent do you oppose or support the following: - The UK should move away from animal farming and transition towards an animal-free food system
- To which extent do you oppose or support the following: - The UK Government should commit to rewild the land and ocean as part of a broader programme of wildlife restoration and carbon drawdown
- To which extent do you oppose or support the following: - The UK should ban factory farming

Willingness to act was operationalised as the average (Cronbach's alpha = 84.2%) of the 7-point Likert scale scores regarding the following three items:

Several activist groups in the UK are fighting to improve animals' lives, minimise their suffering, and stop them from being exploited for food and entertainment. How willing are you to do the following in the next two months:

- Donate to an animal rights activist group
- Participate in a peaceful animal rights protest
- Write to or phone your MP about animal welfare
Analysis

We carried out Bayesian linear regression analyses (Bürkner, 2017) to test the effect of the different campaigns and messages. The first analysis was a campaign type (horse race disruption, open rescue, KFC drive-thru blockade) X message type (norms/values-led, problem-led, solution-led) regression analysis. For this analysis, the neutral control condition was removed from the dataset to allow for a typical crossed factorial analysis. This analysis was used primarily to test for main effects in order to assess whether certain campaigns or message types are generally more persuasive. The analysis included the following covariates: 1) Accuracy on the comprehension check (correct vs. incorrect). 2) Awareness of the Grand National horse racing protest in April 2023 (Likert scale; 1 = Nothing at all, 2 = A little, 3 = A moderate amount, 4 = A lot, 5 = A great deal). 3) Awareness of the open rescue of sheep in May 2023 (5-point Likert scale as above). One such regression analysis was carried out for each of the three outcome variables (Animal Solidarity scores, support for AR's demands, willingness to act).

The second analysis simply treated all conditions as unique, i.e. it ignored which campaign or message type they belong to (hence, the analysis had a single factor with 10 levels). Here, the control condition was the baseline condition, such that the coefficients give the effect of the treatment conditions relative to the control condition.

Both analyses used mildly informative priors, partly based on the pre-test on Animal Solidarity scores, partly based on the expectation that any treatment effects in the present study should be rather small. In particular, we set the priors for the intercepts to a normal distribution with a mean of 5 and a standard deviation of 1, whereas the priors for all the treatment effects were set to a normal distribution with a mean of 0 and a standard deviation of 0.25. The crossed factorial analysis used sum-to-zero coding and used estimated marginal means comparisons to evaluate to what extent given pairs of conditions differed. The analysis testing the effect of each of the 9 treatment conditions relative to the control condition used dummy-coding with the control condition as the baseline.
References


https://psycnet.apa.org/record/1990-30919-001


https://doi.org/10.1177/0956797617719950


https://books.google.com/books?hl=en&lr=&id=R2dleyi iTMC&oi=fnd&pg=PA167&q=The+framing+of+decisions+and+the+psychology+of+choice&ots=VMeCri7Emo&sig=36CwNhZQ3aOzrHZBy2b0LSXnhvU

Appendix

Messages

Note: The bit in the campaign description that is in smaller font came in-between the quotes. It is included in the top part to make it easier to see the different messages.
**Version 1 - Climate mentioned, suffering not mentioned**

### Horse race disruption

The group Animal Rising is disrupting large scale sports events that exploit and harm animals for entertainment. They argue that events such as horse or dog racing, which regularly kill injured or slow-racing animals, are unacceptably cruel. The group wants to bring attention to our broken relationship with animals and nature.

The Cheltenham Gold Cup was disrupted today after 300 protesters stormed the Cheltenham course to stop the famous horse race going ahead. Supporters of the grassroots organisation Animal Rising jumped over barriers and ran onto the course just before the race was to begin, causing the starter to return the horses and jockeys to the paddock. 100 protesters joined arms and walked towards the start line until they were escorted off the course. Dozens were arrested, and safety fears meant the organisers postponed the race until later today.

<table>
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<tr>
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<tbody>
<tr>
<td><strong>Orla Coughlan</strong>, a spokesperson for Animal Rising, said: “Most people who've come to racing today love to see the horses. We all want to be kind to animals and don't want to harm them on purpose. Everyone wants to protect animals because they know it's the right thing to do. But these races gamble with their lives.”</td>
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Coughlan continued: “As a society we keep on exploiting and killing animals for entertainment and food. We need a national conversation about the kind of society we want to be. We believe that we can be better, and live in accordance with the love we have for animals.” |

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<tr>
<td><strong>Orla Coughlan</strong>, a spokesperson for Animal Rising, said: “We've broken our natural bond with animals, exploiting them both for fun and for food. It's this broken relationship that is at the heart of the climate and nature emergency we're facing. Animal agriculture is a leading cause of climate change, with up to a fifth of all our emissions coming from the food system.”</td>
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Coughlan continued: “These races are symptomatic of our broken relationship with the natural world, but we see it elsewhere in society too. That's why we need to talk about our relationship with animals, including here at the races.” |

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<td><strong>Orla Coughlan</strong>, a spokesperson for Animal Rising, said: “We disrupted this race today because we're calling for a vegan future that fixes our broken relationship with animals. The solution has to be stopping the harm, whether that's exploiting animals for fun or exploiting them for food.”</td>
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Coughlan continued: “A plant-based food system is the only reasonable solution to the moral wrong of exploiting and killing animals for food, and it will help us tackle the climate emergency at the same time. We need a safer, more secure, and sustainable food system that has to be plant-based. That's why we need to change our relationship with animals, including here at the races.” |
Open rescue

The group Animal Rising is occupying livestock farms and liberating animals from farms. They argue that these animals endure high levels of suffering and they want to save them from being slaughtered for food. Animal Rising wants to bring attention to our broken relationship with animals and nature.

Five sheep were taken from Jeremy Clarkson’s farm over the weekend when a group of animal activists broke into the sheds and rescued the animals. Supporters of the grassroots organisation Animal Rising have claimed responsibility for taking livestock animals from the Lickety Spit farm, made famous on Clarkson’s Amazon Prime TV series. The protesters say they have handed the sheep over to an animal sanctuary, but refuse to give its location. Jeremy Clarkson, who has suffered criticism of his farming methods, has been asked for comment.

**VERSION A: VALUES/NORMS LED**

Orla Coughlan, a spokesperson for Animal Rising, said: “Most people would want to rescue an animal in distress, because everyone knows that’s the right thing to do. We all want to be the kind of people who act on our values, and that’s why we rescued these sheep today. Yet, as a society we keep on exploiting and killing animals for food.”

Coughlan continued: “What we’re asking for is a national conversation about the kind of society we want to be. We believe that as a society we can be better, and live in accordance with the love we have for animals.”

**VERSION B: PROBLEM LED**

Orla Coughlan, a spokesperson for Animal Rising, said: “We’ve broken our natural bond with animals, exploiting them both for fun and for food. It’s this broken relationship that is at the heart of the climate and nature emergency we’re facing. Animal agriculture is a leading cause with up to a fifth of all our emissions coming from the food system.”

Coughlan continued: “We still breed dogs for harmful experiments, and lock chickens and pigs away in sheds for their whole lives. We cannot afford to carry on like this. Right now, we are doing so much harm to animals and nature.”

**VERSION C: SOLUTION LED**

Orla Coughlan, a spokesperson for Animal Rising, said: “We liberated these animals today to call for a vegan future that fixes our broken relationship with animals. The solution has to be stopping the harm, whether that’s exploiting animals for fun or exploiting them for food.”

Coughlan continued: “A plant-based food system is the only reasonable solution to the moral wrong of exploiting and killing animals for food, and it will help us tackle the climate emergency at the same time. Our solution is a much safer, more secure, and more sustainable plant-based food system we can all be proud of.”
KFC drive-thru blockade

The group Animal Rising is disrupting roads outside fast food drive-thrus to encourage people to choose animal-free options. They argue that the billion chickens killed in the UK each year for meat endure high levels of suffering. Animal Rising wants to bring attention to our broken relationship with animals and nature.

Seventeen KFC drive-thru restaurants were shut down across London yesterday when animal activists blocked the entrances to customers hoping for a quick chicken dinner. Supporters of the grassroots organisation Animal Rising sat down in the road and obstructed drivers trying to enter the drive-thrus. A number of members of the public tried to remove the activists by force before the police stepped in and made 34 arrests.

While KFC have declined to comment, Animal Rising say that over 56 billion chickens are killed every year for food globally and chicken farming is a major risk for avian flu and the next pandemic.

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<td>Orla Coughlan, a spokesperson for Animal Rising, said: “Many people in this country believe it’s wrong to exploit and kill animals for food and sport. These people gave us so much support when we rescued 18 beagles from a life of painful experiments.” Coughlan continued: “Most people don’t think it’s right that animals have to suffer in our farming and fishing industries, which treat animals like inanimate production units. That’s why we need a national conversation about the kind of society we want to be. We believe that we can be better, and live in accordance with the love we have for animals.”</td>
<td>Orla Coughlan, a spokesperson for Animal Rising, said: “We’ve broken our natural bond with animals, whether that’s exploiting them for fun or for food. It’s this broken relationship that is at the heart of the climate and nature emergency we’re facing now.” Coughlan continued: “Animal agriculture is a leading cause of climate change with up to a fifth of all our emissions coming from the food system. We cannot afford to carry on like this. Our farming and fishing industries are an incredibly inefficient way of producing food that’s unsafe, unaffordable, and has serious consequences for animals and the planet.”</td>
<td>Orla Coughlan, a spokesperson for Animal Rising, said: “We blocked these restaurants today because we’re calling for a vegan future. The solution has to be stopping the harm, whether that’s exploiting animals for fun or exploiting them for food.” Coughlan continued: “A plant-based food system is the only reasonable solution to the moral wrong of exploiting and killing animals for food, and it will help us tackle the climate emergency at the same time by reducing the emissions coming from farming and agriculture. Our solution is a much safer, more sustainable plant-based food system that we can all be proud of.”</td>
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Horse race disruption

The group Animal Rising is disrupting large scale sports events that exploit and harm animals for entertainment. They argue that events such as horse or dog racing, which regularly kill injured or slow-racing animals, are unacceptably cruel. The group wants to bring attention to our broken relationship with animals and nature.

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Orla Coughlan, a spokesperson for Animal Rising, said: “Most people who've come to racing today love to see the horses. We all want to be kind to animals and don't want to harm them on purpose. Everyone wants to protect animals because they know it's the right thing to do. But these races gamble with their lives.”

Coughlan continued: “As a society we keep on exploiting and killing animals for entertainment and food. We need a national conversation about the kind of society we want to be. We believe that we can be better, and live in accordance with the love we have for animals.”

VERSION B: PROBLEM LED

Orla Coughlan, a spokesperson for Animal Rising, said: “We've broken our natural bond with animals, exploiting them both for fun and for food. At these races, we gamble with animals’ lives. This broken relationship can be seen elsewhere in society too, and it is responsible for so much unnecessary suffering. Animal agriculture is extremely cruel.”

Coughlan continued: “These races are symptomatic of our broken relationship with the natural world. We cannot afford to carry on like this. We are doing so much harm to animals right now. That’s why we need to talk about our relationship with animals, including here at the races.”

VERSION C: SOLUTION LED

Orla Coughlan, a spokesperson for Animal Rising, said: “We disrupted this race today because we're calling for a vegan future that fixes our broken relationship with animals. The solution has to be stopping the harm, whether that's exploiting animals for fun or exploiting them for food.”

Coughlan continued: “We have to move away from animal farming. The practices that are used in animal farming are extremely cruel and cause so much suffering. We know that a safer, more secure, and sustainable food system has to be plant-based. That's why we need to change our relationship with animals, including here at the races.”
Open rescue

The group Animal Rising is occupying livestock farms and liberating animals from farms. They argue that these animals endure high levels of suffering and they want to save them from being slaughtered for food. Animal Rising wants to bring attention to our broken relationship with animals and nature.

Five sheep were taken from Jeremy Clarkson’s farm over the weekend when a group of animal activists broke into the sheds and rescued the animals. Supporters of the grassroots organisation Animal Rising have claimed responsibility for taking livestock animals from the Lickety Spit farm, made famous on Clarkson’s Amazon Prime TV series. The protesters say they have handed the sheep over to an animal sanctuary, but refuse to give its location. Jeremy Clarkson, who has suffered criticism of his farming methods, has been asked for comment.

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**VERSION A: VALUES? NORMS LED**

Orla Coughlan, a spokesperson for Animal Rising, said: “Most people would want to rescue an animal in distress, because everyone knows that’s the right thing to do. We all want to be the kind of people who act on our values, and that’s why we rescued these sheep today. Yet, as a society we keep on exploiting and killing animals for food.”

Coughlan continued: “What we’re asking for is a national conversation about the kind of society we want to be. We believe that as a society we can be better, and live in accordance with the love we have for animals.”

**VERSION B: PROBLEM LED**

Orla Coughlan, a spokesperson for Animal Rising, said: “We’ve broken our natural bond with animals, whether that’s exploiting them for fun or for food. Animals suffer so much in our farming and fishing industries, which treat these animals like inanimate units just there to make a profit. The practices that are used in animal farming are extremely cruel.”

Coughlan continued: “We still breed dogs for harmful experiments, and lock chickens and pigs away in sheds for their whole lives. This is a major issue and we cannot afford to carry on like this. We are doing so much harm to animals and nature.”

**VERSION C: SOLUTION LED**

Orla Coughlan, a spokesperson for Animal Rising, said: “We liberated these animals today to call for a vegan future that fixes our broken relationship with animals. The solution has to be stopping the harm, whether that’s exploiting animals for fun or exploiting them for food.”

Coughlan continued: “We have to move away from animal farming. The practices that are used in animal farming are extremely cruel and cause so much suffering. A plant-based food system is the only reasonable solution to the moral wrong of exploiting and killing animals for food. Our solution is a much safer, more sustainable plant-based food system we can all be proud of.”
KFC drive-thru blockade

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Seventeen KFC drive-thru restaurants were shut down across London yesterday when animal activists blocked the drive-thrus' entrances to customers hoping for a quick chicken dinner. Supporters of the grassroots organisation Animal Rising sat down in the road and obstructed drivers trying to enter the drive-thrus. Some of the protesters locked themselves onto railings at the entrance. While KFC have declined to comment, Animal Rising say that over 56 billion chickens are killed every year for food globally and chicken farming is a major risk for avian flu and the next pandemic.

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<td>Orla Coughlan, a spokesperson for Animal Rising, said: “So many people believe it is wrong to exploit and kill animals for food and for sport. Most people don’t think it’s right that animals have to suffer so much in our out-of-date farming and fishing industries, which treat these animals like units for making profit.” Coughlan continued: “That’s why we need a national conversation about the kind of society we want to be. We believe that as a society we can be better, and live in accordance with the love we have for animals.”</td>
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<td>Orla Coughlan, a spokesperson for Animal Rising, said: “We blocked these restaurants today because we’re calling for a vegan future. The solution has to be stopping the harm, whether that’s exploiting animals for fun or exploiting them for food.” Coughlan continued: “A plant-based food system is the only reasonable solution to the moral wrong of exploiting and killing animals for food, and it will stop the immense suffering that animals have to go through now. Our solution is a much safer, more sustainable plant-based food system we can all be proud of.”</td>
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