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The Public's Mental Models About Farming Animals

Research Report

Animal Think Tank

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Table of Contents

Summary of findings

This report presents two studies examining public perceptions of the treatment of farmed animals in the UK. It focuses on aspects such as welfare standards, 'deservingness' of rights, ethical treatment, and the necessity of common farming practices.

Public perception of high animal welfare

The majority of respondents view the UK as a nation of animal lovers with a good relationship with animals. However, opinions are divided regarding the treatment of farmed animals, with approximately half of the participants believing that farmed animals are treated well and that the relationship between farmers and animals is mutually beneficial.

Perceived 'deservingness' of rights for farmed animals

A significant portion of participants believe that farmed animals deserve to live free and have rights. This indicates a disconnect between the perceived deservingness of freedom and rights for animals and the recognition of their current state. The study revealed a notable gap in understanding among the public regarding what rights farmed animals entail.

Trust in bodies for animal welfare

Veterinary professionals, animal welfare charities, and animal rights groups are trusted by the majority to prioritise the welfare of farmed animals. In contrast, trust is notably lower for farmers and particularly large farming corporations, politicians, and the UK government, especially regarding the enforcement of animal welfare laws.

Cognitive framing effect between 'exploitation' and 'slavery'

Thematic analysis of responses to statements about the exploitation and enslavement of farmed animals reveals significant reliance on narratives that justify current farming practices. The most widely used were: A) They are well cared for and leave good happy lives, B) The term slavery or exploitation are terms that should only apply to humans, and that C) They were bred for the specific purpose of being used for food.

Narrative shifts

We also observed a shift in narratives based on the topic. Specifically, when thinking about animals as being enslaved, participants were much more likely to view farmed animals as being free to roam within the farm. In contrast, when thinking about animals as being exploited, participants were more likely to use the narrative that the animals would not exist if they were not farmed. This indicates a cognitive framing effect in which the way an issue is framed significantly influence how individuals conceptualise and respond to it.

Correlation between perceived harm and necessity

We found a significant correlation between the perceived necessity of a practice and its perceived harm, suggesting a cognitive dissonance resolution strategy whereby practices viewed as being higher in necessity are viewed as less harmful.

The effect of perceived necessity on perceived harm

The necessity framing of certain practices - specifically the use of farrowing crates, teeth trimming, and tail docking -influenced perceptions by suggesting these practices are protective measures for the animals. This change in perceived necessity also had a spill-over effect:lower perceived harm and lower support for a ban of the practice. Frames highlighting the unnecessary nature of practices did not significantly alter perceptions, possibly indicating an anti-vegan bias or resolution of cognitive dissonance.

Study one

Method

Perceptions of Britain's relationship with other animals

Please rate how much you agree or disagree with the following statements [Strongly agree, Agree, Neither agree/disagree, Disagree, Strongly disagree].

- People in Britain care deeply about animal welfare standards.
- The UK is a nation of animal lovers.
- In general, farmed animals are treated well by farmers?
- Overall, the UK has a good relationship with animals.
- Overall, farmed animals are treated ethically.
- Farmed animals are members of our society.
- Overall, farmed animals receive fair treatment in our society.
- The relationship between British people and farmed animals is mutually beneficial.

General perceptions of how badly farmed animals are treated

Thinking of farmed animals in general, please rate how much you agree [Strongly agree, Agree, Neither agree/disagree, Disagree, Strongly disagree].

- Farmed animals are [not allowed to be free/denied their freedom].
- Farmed animals [are denied their rights/have their rights violated].
- Farmed animals are [unable to make/prevented from making] their own choices about how to live their lives.
- Farmed animals are exploited.
- Farmed animals are enslaved.

Participants were invited to expand on their response to the last two statements in a text box.

General perceptions of deservingness for better treatment

Thinking of farmed animals, please rate how much you agree with the following statements [Strongly agree, Agree, Neither agree/disagree, Disagree, Strongly disagree].

- Farmed animals deserve to live free.
- Farmed animals deserve to have rights.
- Farmed animals deserve to be free from exploitation.
- Farmed animals deserve to be free from enslavement.
- Farmed animals deserve to be able to make their own choices about how to live their lives.

Perceptions of trust in different bodies

How much do you trust [Group] to prioritise the welfare of farmed animals? [A great deal, A lot, A moderate amount, A little, Not at all].

- farmers in the UK
- the UK government
- politicians
- large farming corporations in the UK
- veterinary professionals
- animal rights groups
- animal welfare charities
- How much do you trust the UK government's enforcement of animal welfare laws in farming?

Standard industry practices

Please read the following list of practices commonly found in the animal farming industry. Please rate how much [Followed by:]

- you feel each practice is harmful to the animals.
- you feel each practice is necessary.
- you feel each practice causes [necessary harm/unnecessary harm].

[Extremely, A lot, A moderate amount, A little, A lot, I don't know].

1. Farming animals for food.
2. After giving birth, confining the movement of mother pigs in farrowing crates for up to 5 weeks.
3. Artificially inseminating cows for milk production.
4. Removing calves from their mothers 1-3 days after they are born.
5. Killing by macerating (grinding up), gassing, or suffocating day-old male chicks of egg-laying hens.
6. Slaughtering cows after they have stopped producing enough milk to be profitable.
7. Slaughtering chickens after they have stopped producing enough eggs to be profitable.
8. Slaughtering animals for food.

Results

Overall, participants view the UK as a nation of animal lovers, with a good relationship with animals. The UK is fairly split about how well farmed animals are treated - with about 50% agreeing that they are treated well, and that the relationship between farmers and farmed animals is mutually beneficial. About 25% disagree with such statements, with a proximately a further 25% being unsure.

Figure 1: Response distributions of agreement with statements about the UK's relationship with farmed animals.

Perceptions of Uk's relationship with farmed animals.
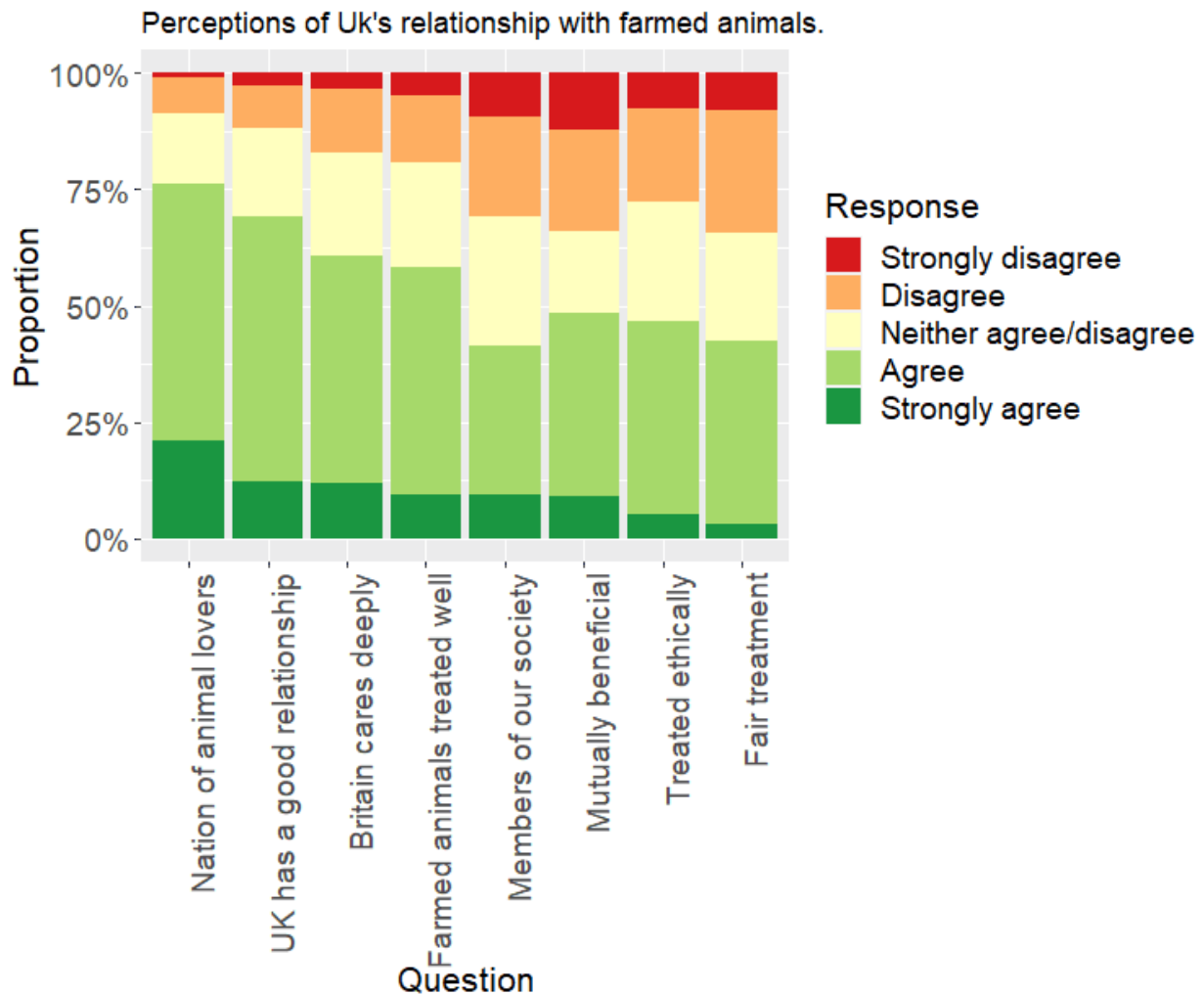
We asked participants about their belief in the deservingness and reality of farmed animals in respect of freedom, rights, exploitation, enslavement, and agency. A significant majority agree that farmed animals deserve rights (68%), but fewer (39%) agree that they are denied their rights (or have their rights violated). This indicates a potential lack in understanding amongst the general public about what rights for farmed animals entails, and why messaging focused on animal rights has been ineffective. Further research will be needed to understand which specific rights the UK public believe that farmed animals should be entitled to.

Similar to freedom, a significant majority agree that farmed animals deserve to live free from exploitation (66%) and enslavement (58%), and agree that farmed animals are exploited (58%) or enslaved (47%). Again, this poses a potential avenue for future messaging, suggesting that the UK public are open to these concepts.

Finally, about one third of the public believes that animals deserve to make decisions about their lives (36%), whereas most believe that they are prevented (69%), or unable (76%) to make such decisions. Further work is needed to understand how to improve perceptions of the agency amongst [farmed] animals.

Table 1.

| Farmed animals deserve to..		Farmed animals are..	
..live free.	57%	..denied their freedom.	49%
..have rights.	68%	..denied their rights.	39%
..live free from exploitations.	66%	..exploited.	58%
..live free from enslavement.	58%	..enslaved.	47%
..be able to make decisions about how to live their lives.	36%	..prevented from making their own decisions about how to live.	69%
		..unable to make their own decisions about how to live their lives.	76%
.. have their rights protected by the government.	74%	Not recorded	

We also tested two alternative framings of three statements about freedom, rights, and decision making (**Table 1, Figure 2**). 57% of participants agreed that farmed animals deserve to live free, and a similar amount (49%) agreed that they are denied (or not allowed) their freedom. This indicates that a significant majority believe that animals should be granted freedom - suggesting framing in terms of freedom might be an

effective strategy.

We performed a Bayesian ordinal logistic regression on the effect of the different framings of agreement with three statements. There were no differences in agreement between the two freedom or rights framings. However, there was a significant difference between "Farmed animals are unable to make their own choices about how to live their lives" and "Farmed animals are prevented from making their own choices about how to live their lives" (**Figure 2**).

There was higher agreement with the statement that they are unable to make decisions, reflecting a belief in a lack of agency amongst farmed animals. This finding also demonstrates a potential framing effect on perceptions of animal agency. Being prevented from making choices implies an ability to do so in the first place. This implies that messages which assume their freedom to choose is violated a-priori (versus framings which raise the question of the ability in the first place) could potentially increase perceptions of animal intelligence and capabilities

Figure 2. *Response distributions to the statements "Farmed animals are prevented from making their own choices about how to live their lives" versus "Farmed animals are unable to make their own choices about how to live their lives".*
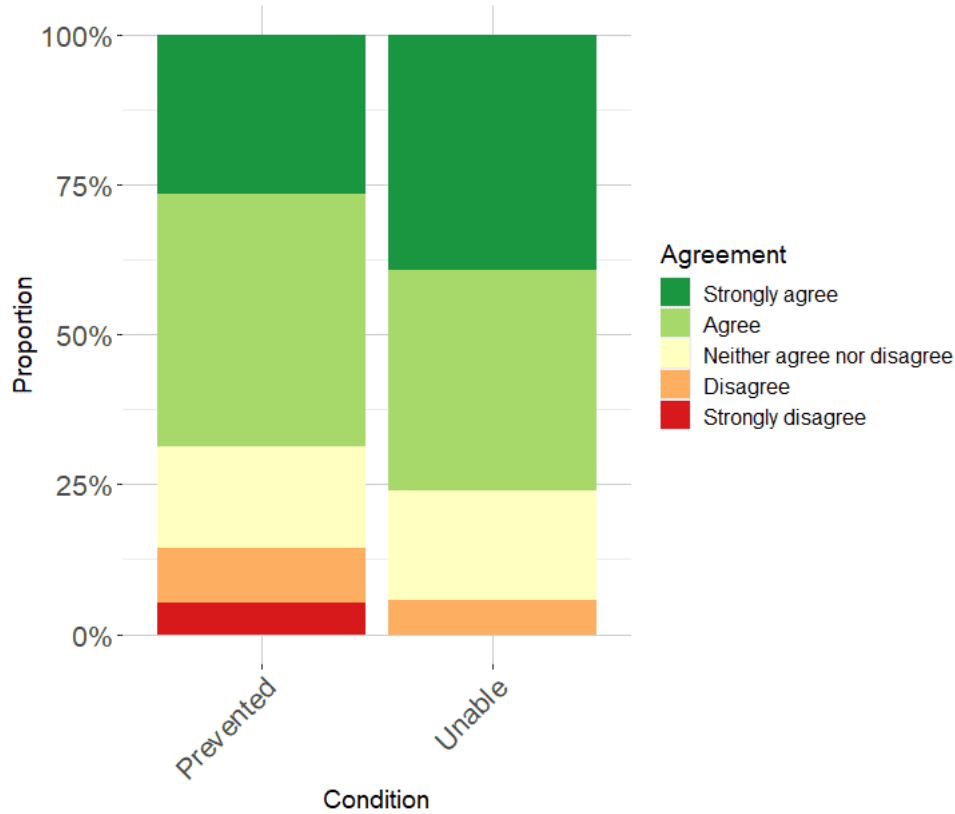
Next, we asked our participants about which groups they trust to prioritise the welfare of farmed animals. Vets, animal welfare charities, and animal rights groups were well trusted (>50% trust "a lot" or "great deal"). Farmers were less well trusted (42% were trusted "a lot" or "a great deal"). Corporations (13.5%), politicians (3.6%), the government (8.5%), and the governments enforcement of animal welfare laws (11.4%) were not very well trusted, indicating possibilities for who should be framed as potential oppositions in future messaging.

Figure 3. *Trust in different groups to prioritise the welfare of farmed animals.*
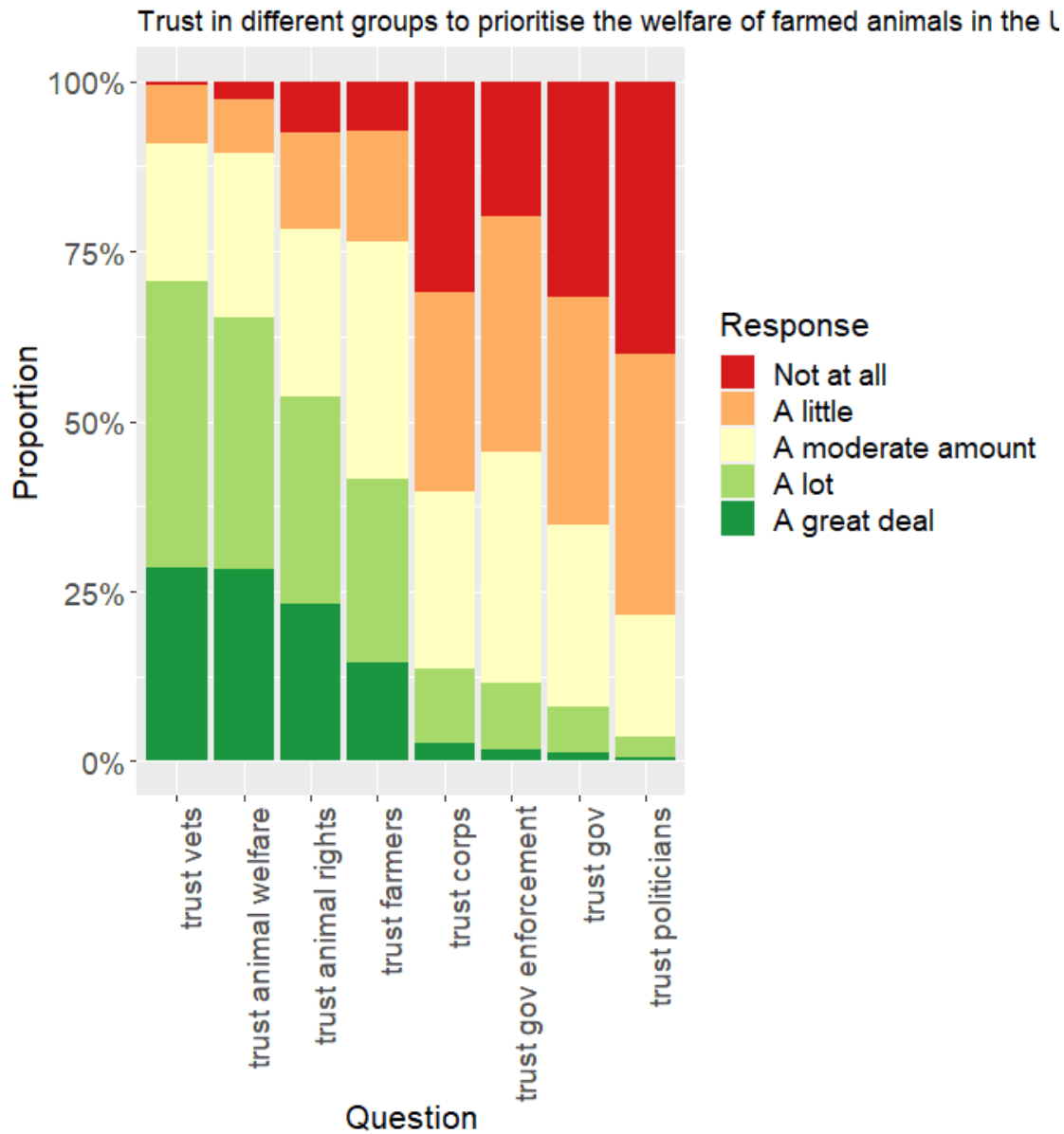
We asked participants to rate their perceptions of a list of standard farming practices in terms of harm and necessity. We found significant correlations (**Figure 4, Table 2**) between the two for all practices. This finding is indicative of resolving cognitive dissonance: The more necessary a practice is perceived, the less harmful it is perceived. This "denial of mind" may be a strategy for people to accept harmful practices they deem necessary. Further research (study 2) is needed to understand whether there is a causal

relationship between the two: If a practice can be framed in such a way so as to decrease it's perceived necessity, will it also increase it's perceived harm? If so, this provides a potential additional avenue for advocates whose aim is to increase knowledge about the harms of farming animals.

Figure 4. *Scatter plots of perceived harm and perceived necessity for seven different standard farming practices. Responses were on a 1-7 scale, the data have been jittered for visualisation purposes.*
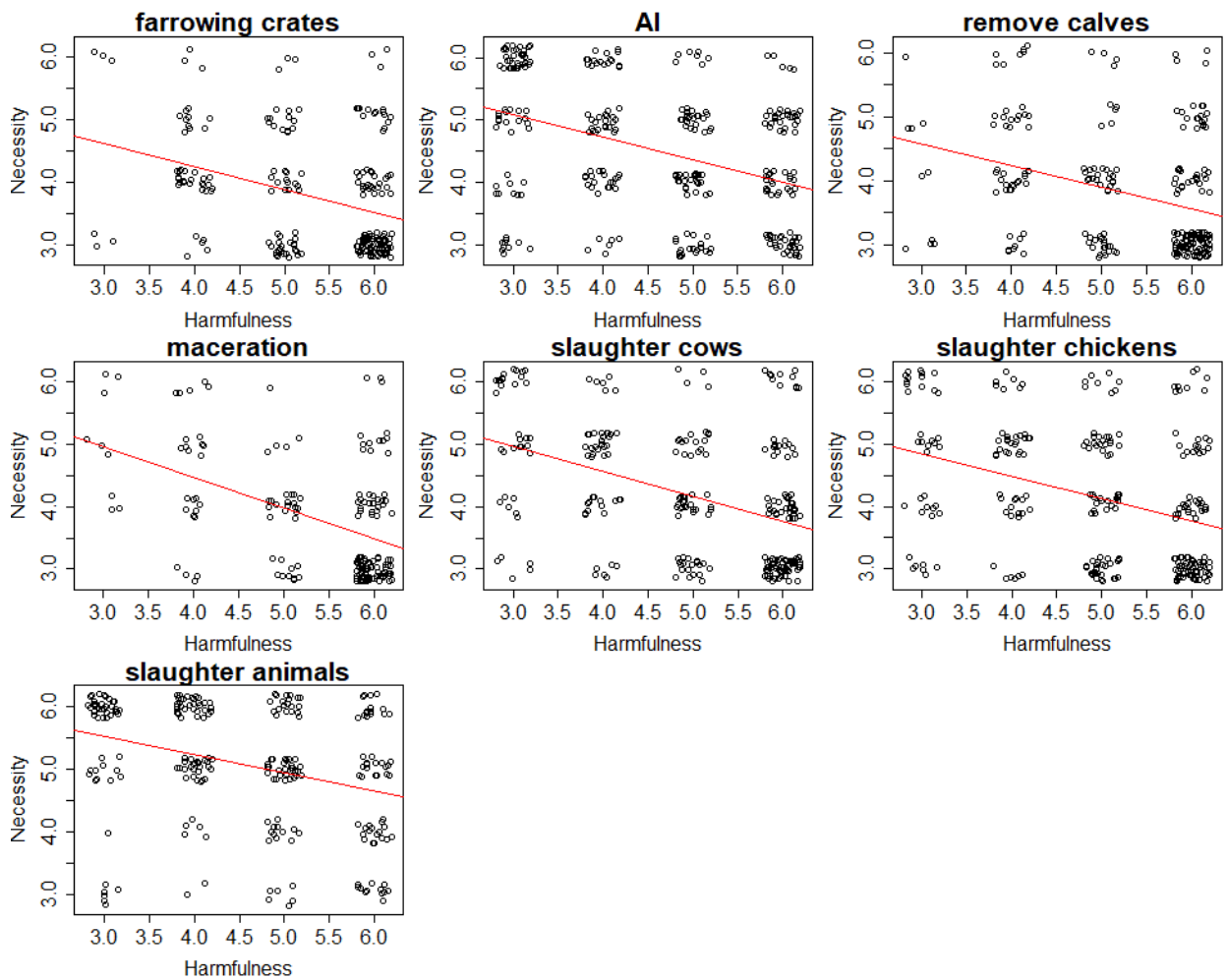
Table 2. *Correlations between perceived necessity and perceived harm. All p values <.001.*

Farming practice	Pearson's r
Farming animals	-.48
Farrowing crates	-.51
Artificial insemination	-.57
Removing calves after birth	-.47
Chick maceration or suffocation	-.54
Slaughtering cows after they have stopped producing milk	-.55
Slaughtering chickens after they have stopped producing eggs	-.51
Slaughtering animals for food	-.5

Participants were asked to expand on their response to the two questions asking how much they agreed with the statements "Farmed animals are exploited" and "Farmed animals are enslaved" (**Figure 5**).

Figure 5. *Perceptions of farmed animals as being exploited or enslaved.*
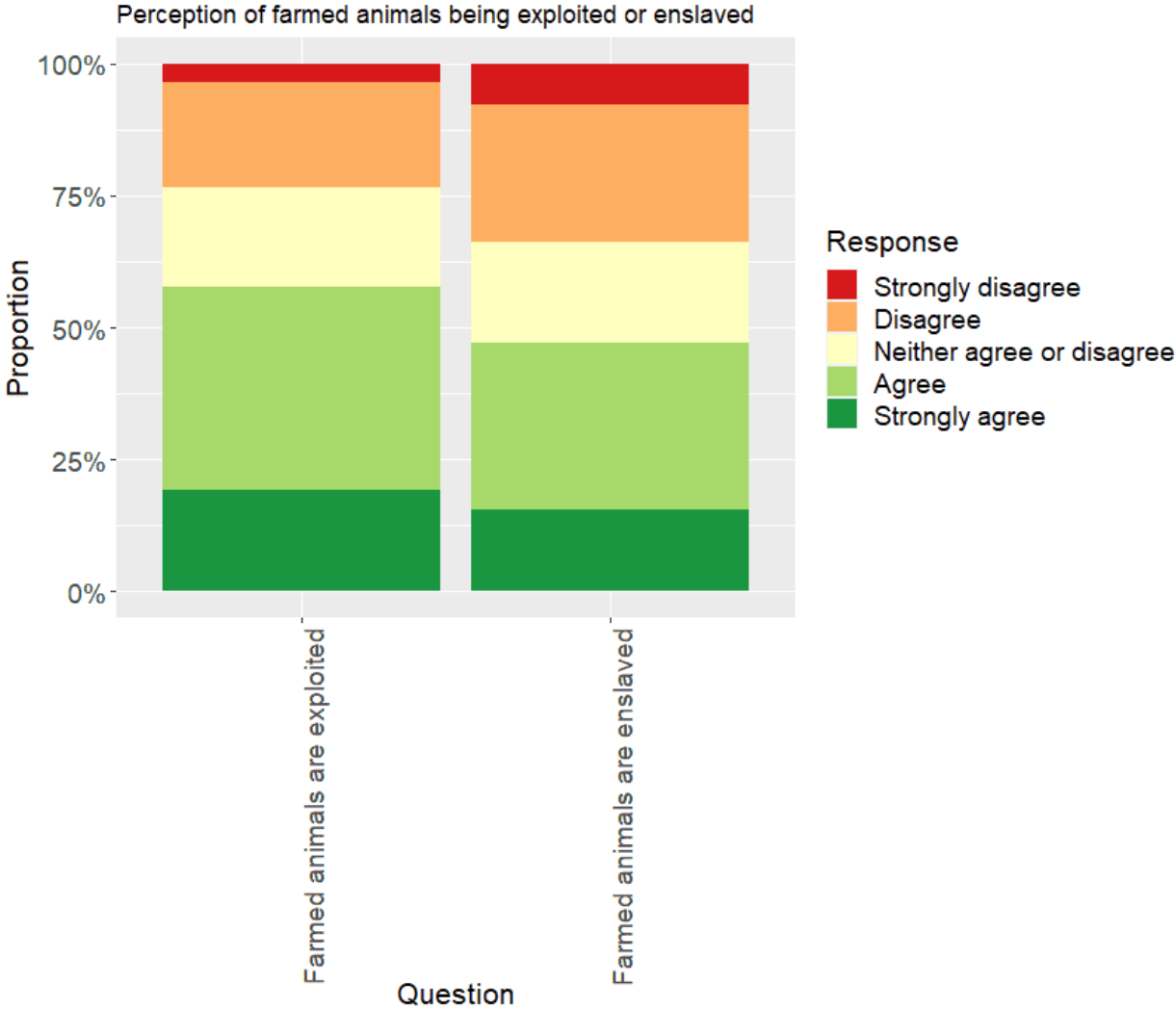
We performed thematic analysis on the responses of those who did not agree with each statement (**Table 3-4**). Amongst those who did not agree that farmed animals are exploited (23.5% of the sample), we found a number of narratives. More than 60% of the justifications for why they did not see farmed animals as being exploited could be categorised by four narratives: That they are cared for and live a nice life, that they are bred for us/have a purpose, that they would not exist if they were not farmed, and that the term does not apply to animals. This shows that focusing on changing specific narratives (such as the "nice life" narrative) may be highly effective in changing attitudes.

Table 3. Percentages of the types of narratives used by those who did not agree with the statement "Farmed animals are exploited".

Justification	Count	Percentage	Cumulative
They are cared for or have a nice life	43	29.86%	29.86%
They are bred for us/have a purpose	22	15.28%	45.14%
They would not exist if they were not farmed	17	11.81%	56.94%
The term doesn't apply to animals	10	6.94%	63.89%
We have high welfare laws/standards to protect them	7	4.86%	68.75%
They lack necessary cognitive capabilities	6	4.17%	72.92%
Farming is necessary	5	3.47%	76.39%
They could not survive in the wild	5	3.47%	79.86%
It depends on the farm	3	2.08%	81.94%
Naturalistic fallacy	3	2.08%	84.03%
They have freedom on the farm	3	2.08%	86.11%
They provide a service	3	2.08%	88.19%
Economy	2	1.39%	89.58%
Other	5	3.47%	93.06%
No reason given	10	6.94%	100.00%
Total	144		

Similarly, when analysing the responses of those who did not agree with the statement "Farmed animals are enslaved" (**Table 4**), over 60% of the justifications could be categorised within four narratives, three of which were also found in the previous question about whether farmed animals are exploited: Well cared for/good lives, the term does not apply to animals, they are bred for the purpose. The rates that these narratives were used were approximately consistent across both questions. Unlike responses to the question about enslavement, the narrative that they would not exist if

they were not farmed did not feature prominently in responses to this question (3.52% versus 11.81%), and instead was replaced by a new narrative: That they have freedom (such as to roam) on the farm (11.97% versus 2.08%).

Table 4. *Narratives used by those who did not agree with the statement "Farmed animals are enslaved" (33% of the sample).*

Justification	Count	Percentage	Cumulative
They are well cared for/live good lives	40	28.17%	28.17%
The term does not apply to animals	23	16.20%	44.37%
They have freedom on the farm	17	11.97%	56.34%
They are bred/used to produce/have purpose	14	9.86%	66.20%
They are not forced to work	13	9.15%	75.35%
They could not survive in the wild/need to be kept	7	4.93%	80.28%
Capabilities – They can't conceive of alternative/freedom/slavery	6	4.23%	84.51%
The term "slavery" is too loaded/emotive	5	3.52%	88.03%
They would not exist if they were not farmed	5	3.52%	91.55%
Naturalistic fallacy	2	1.41%	92.96%
They are constrained rather than enslaved	2	1.41%	94.37%
Other	8	5.63%	100.00%
Total	142		

This indicates a cognitive framing effect in which the way a question is posed can significantly influence how individuals conceptualise and respond to complex issues, such as the treatment and perception of farmed animals. In this case, the narrative shift suggests that when the notion of "enslavement" is not directly invoked, respondents are more likely to consider aspects of the animals' lives that might be viewed as positive, such as perceived freedom or the quality of care they receive.

The consistent reliance on narratives like "Well cared for/good lives," "The term does not apply to animals" ('term' referring to slavery or exploitation) and "They are bred for the purpose" ('purpose' being farming) across different questions reflects a common set of underlying beliefs or rationalisations that people use to justify the current practices of animal farming. These narratives mitigate cognitive dissonance by framing the treatment of farmed animals in a more acceptable - or less morally problematic - light.

The decrease in emphasis on the narrative that animals would not exist without farming when moving away from the term "enslavement," suggests that this justification is more closely tied to a defensive response aimed at legitimising the practice in the face of more severe ethical accusations. On the other hand, the emergence of the "freedom to roam" narrative in the absence of the enslavement framing indicates a shift towards justifications that highlight positive welfare aspects, even if these justifications may not fully address the ethical concerns regarding autonomy, consent, and the fundamental nature of the animals' confinement and use.

This cognitive framing effect highlights the importance of language and question framing in discussions about ethical issues. The terms and narratives used can significantly shape perceptions, justifications, and the overall discourse surrounding practices such as animal farming, influencing both public opinion and policy discussions. It also underscores the complexity of human attitudes towards animals and the need for nuanced approaches in advocating for animal welfare and rights.

Study two

Method

Please read the following list of practices commonly found in the animal farming industry. Please rate how much you feel each practice [is harmful to the animals/is necessary/should be banned].

1. Farming animals for food.
   a. We must farm animals for food to provide sources of protein and essential nutrients for communities, ensuring food security and supporting the livelihoods of many farmers.
   b. Farming animals for food. This practice can be avoided because there are alternative plant-based sources of protein and nutrients which do not involve the breeding and killing of animals for consumption. Indeed, a plant-based food system is necessary for an environmentally sustainable future that is better for human and planetary health.
2. After giving birth, mother pigs are kept in farrowing crates for up to 5 weeks after giving birth. The typical size of these crates is around 2 x 1.5 metres.
   a. After giving birth, mother pigs are farrowing in farrowing crates for up to 5 weeks after. The typical size of these crates is around 2 x 1.5 metres. This practice is to protect the newborn piglets from being accidentally crushed by their mother. It ensures a higher survival rate for the piglets and, consequently, better productivity for the farm.
   b. After giving birth, mother pigs are confined in farrowing crates for up to 5 weeks. The typical size of these crates is around 2 x 1.5 metres. Because pigs are confined in crowded, unnatural conditions, small piglets could easily be crushed by other pigs. The practice could be avoided if pigs were given more space to roam and exhibit natural behaviours.

3. Artificially inseminating cows (collecting semen from a bull and inserting it into the reproductive tract of the female) for milk production.

    a. Artificially inseminating cows for milk production is a practice that is used for selective breeding, and to ensure that only the best genetic traits are passed down, which leads to better milk yields, and more profit for farmers.

    b. Artificially inseminating cows (collecting semen from a bull and inserting it into the reproductive tract of the female) for milk production. Farmers artificially inseminate cows for milk production, because only cows who have recently given birth can produce milk. Despite this being an avoidable practice when alternatives to cows' milk are available, cows could be kept with bulls so that they can mate naturally.

4. Separating calves from their mothers 1-3 days after they are born.

    a. Separating calves from their mothers 1-3 days after they are born. If farmers did not separate the calf from their mother, the calf would drink the mother's milk, eating into the farmer's profits.

    b. Farmers separate calves from their mothers 1-3 days after they are born. In nature, calves wean off gradually, and calves naturally bond with their mothers. This early interaction is crucial for their social development. Separating them is avoidable because it's possible to allow calves to nurse from their mothers and still collect milk for commercial purposes, and because plant-based alternatives are available.

5. Killing by macerating (grinding up) or suffocating day-old male chicks of egg-laying hens.

    a. Killing by macerating (grinding up) or suffocating day-old male chicks of egg-laying hens is standard industry practice as male chicks don't produce eggs and aren't bred for meat. Keeping them alive would require resources and space without offering a return on investment. Hence, they are disposed of immediately after sex identification.

    b. Killing by macerating (grinding up) or suffocating day-old male chicks of

egg-laying hens. The moral value of an animal's life doesn't diminish if they are not useful to the meat or egg industries, and there are plant-based alternatives available.

6. Slaughtering animals for food.
    a. Slaughtering animals for food is an essential way to provide protein and nutrients to consumers. It's a vital part of the agricultural cycle, converting animals to food once they've reached the desired size or weight.
    b. Slaughtering animals for food is an avoidable practice, because there are plant-based foods which provide the right protein and nutrients for humans to survive and thrive.
7. Slaughtering cows after they have stopped producing enough milk.
    a. Cows are slaughtered after they have stopped producing enough milk, because once a cow's milk production drops, keeping them becomes economically unfeasible. Slaughtering provides an additional source of revenue for farmers.
    b. Slaughtering cows after they have stopped producing enough milk is an avoidable practice, because the moral value of an animal's life doesn't diminish when their productivity decreases. Cows deserve to live, and plant-based alternatives are available.
8. Slaughtering chickens after they have stopped producing enough eggs.
    a. Slaughtering chickens after they have stopped producing enough eggs is done because maintaining chickens who no longer lay eggs is not economical. Slaughtering provides an additional source of income for farmers.
    b. Slaughtering chickens after they have stopped producing enough eggs is an a avoidable practice, because the moral value of an animal's life doesn't diminish when their productivity decreases, and plant-based alternatives are available.
9. Killing pigs in gas chambers.

a. Killing pigs in gas chambers is easier and more efficient method to administer than other methods. This method allows the process to be made more efficient and cost effective.

b. Killing pigs in gas chambers is an avoidable practice because it causes significant distress and suffering to pigs. Alternative slaughter methods, and shifts towards plant-based diets can reduce the reliance on such practices.

10. Tail docking and teeth trimming of pigs without anaesthetic.

a. Tail docking and teeth trimming of pigs without anaesthetic are practices used for preventing injuries and infections among pigs. These practices are seen as vital for maintaining the health and safety of pig populations, especially in intensive farming environments, where pigs will often bite one another.

b. Tail docking and teeth trimming of pigs without anaesthetic. In intensive farming environments often lead to stress and pigs attacking and biting each other. By providing more space and allowing them to live more natural lives, natural behaviours can be promoted, reducing the stress-induced behaviours that these procedures aim to prevent, and therefore avoiding the need for these practices.

11. Confining chickens in cages

a. Confining chickens in cages is often a required practice for efficient management of chicken farming. It allows for easier egg collection, better disease control, and overall maintenance of many birds in a small space.

b. Confining chickens in cages. This practice can be avoided because free-range farms can offer better welfare for them.

12. Pig thumping, also known as "blunt force trauma," is a practice used in some pig farming operations to kill sick or weak piglets who are deemed unlikely to survive or thrive.

a. Pig thumping, also known as "blunt force trauma," is a practice used in

some pig farming operations to kill sick or weak piglets who are deemed unlikely to survive or thrive. This method is used, because it can be a pragmatic and immediate way to deal with unviable piglets in environments where other methods of disposal may not be readily available or feasible.

b. Pig thumping, also known as "blunt force trauma," is a practice used in some pig farming operations to kill sick or weak piglets who are deemed unlikely to survive or thrive. Alternatives to pig thumping can be used, such as where more compassionate methods are available, such as sanctuaries for sick piglets, and improving conditions on the farm to reduce the occurrence of sick and injured piglets.

Please rate how much you agree with the following statements [Strongly disagree, Somewhat disagree, Neither agree or disagree, Somewhat agree, Strongly agree].

1. Animals are a necessary resource for human benefit.
2. Killing animals for food is unnecessary.
3. We should all try to reduce our meat consumption.
4. Many animal species possess intelligence levels similar to humans.
5. Many animals are capable of feeling emotions similar to humans.
6. Many animals have conscious experiences.
7. Different species have different levels of worth.
8. Human life is more valuable than the life of other animals.
9. It's acceptable to prioritise the needs of humans over those of other animals.

Results

Figure 5. Ratings of agreement with statements about the harm, necessity, and need for banning 12 standard farming practices.
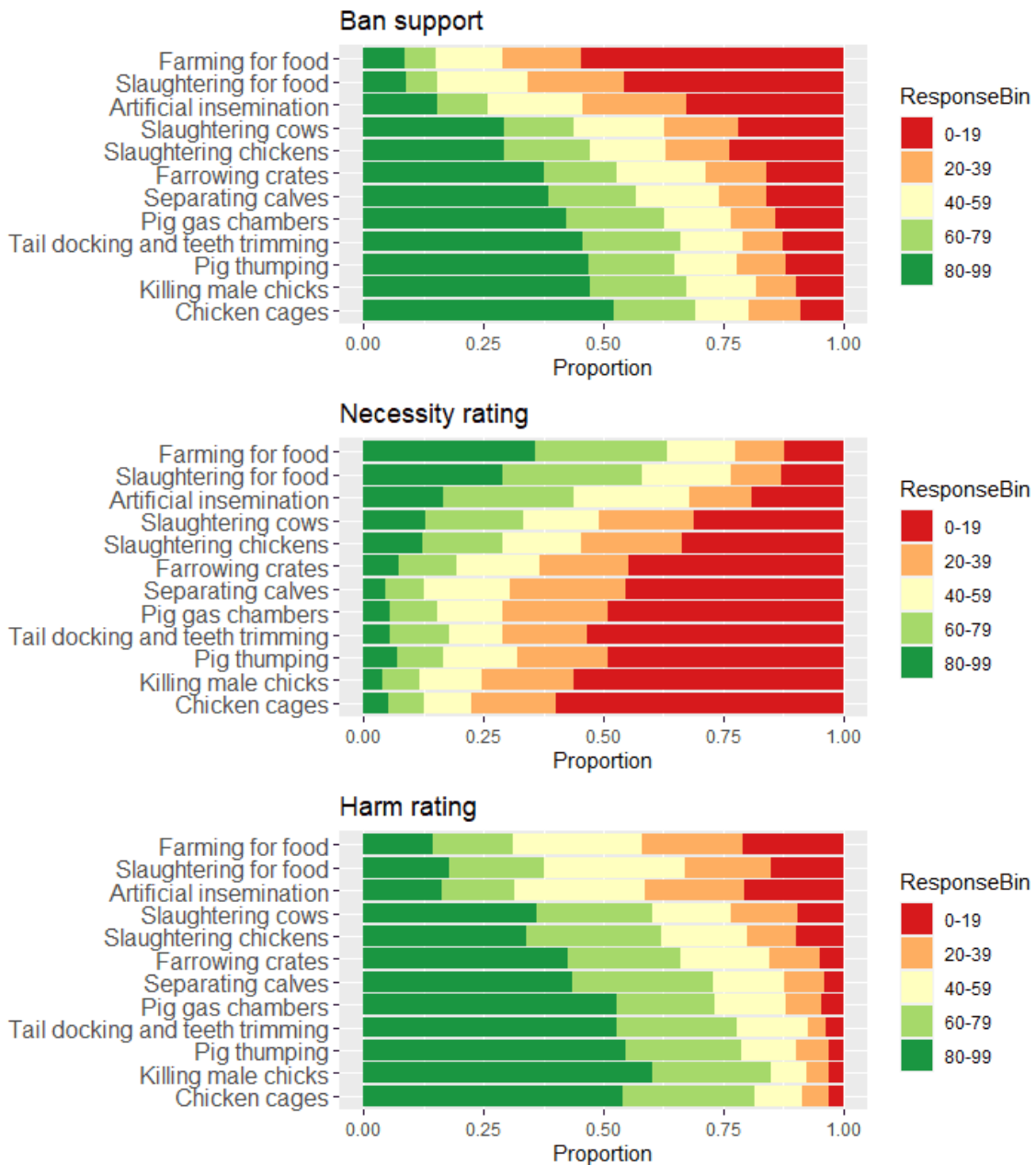

Replicating Study 1, we found significant correlations between perceived harm, necessity, and additionally, support for banning each practice (**Figure 6**).

Figure 6. *This figure plots the proportion of respondents who responded 50 or higher (on a 1-100 scale) for ratings of harm and necessity. Those practices that were perceived as more necessary were also perceived less harmful (and not plotted: less need for a ban of said practice).*
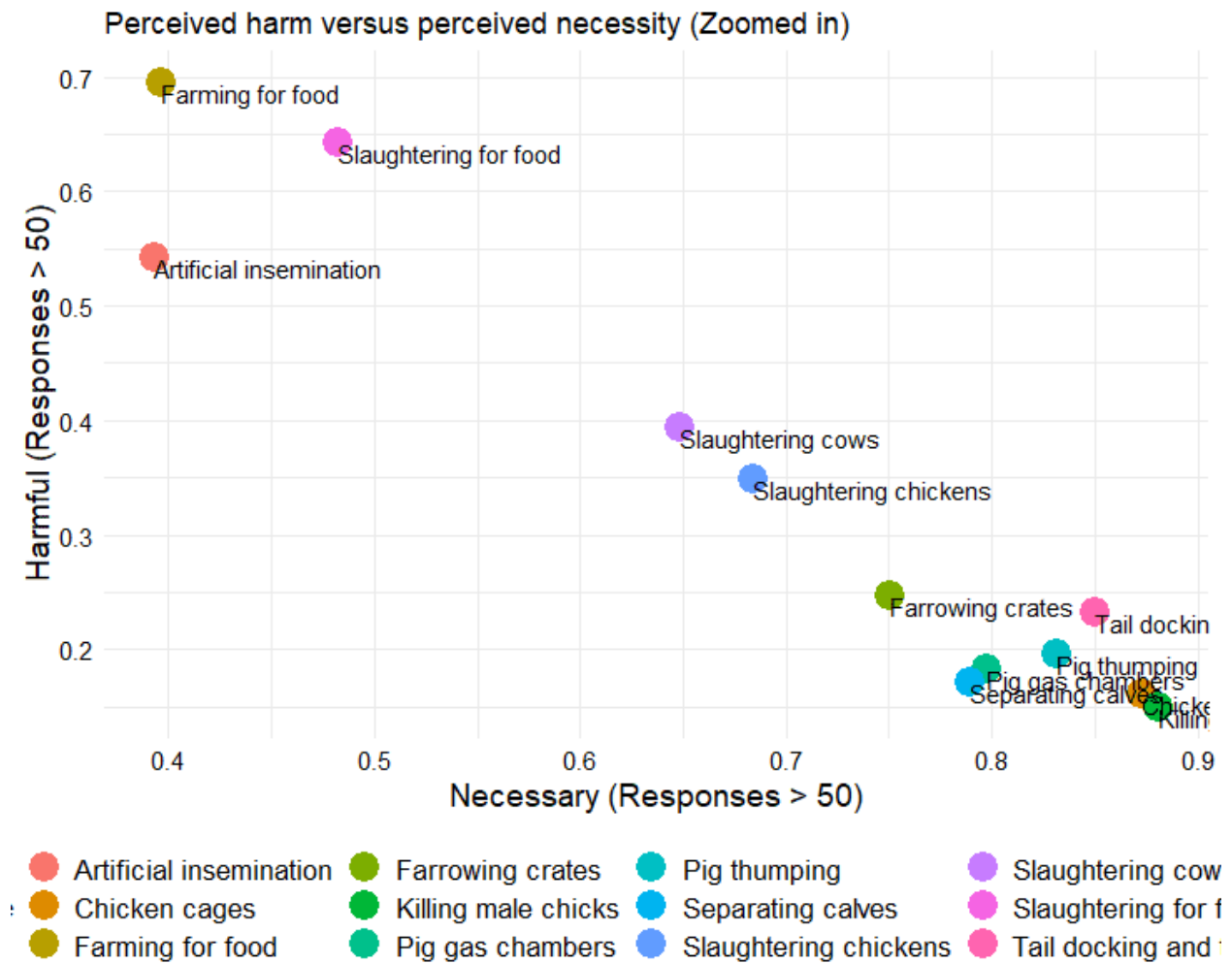
Finally, we analysed the effect of the framing of the different practices on perceived harm, necessity, and support for a ban of the practice (**Figure 7**). In all cases - except two - there was no effect. The necessity-framing of farrowing crates and tail docking and teeth trimming increased ratings of necessity, lowered ratings of harm, and lowered ratings of perceived need for a ban.

Figure 7. *Ratings of harm, necessity, and support for a ban, split by framing of the description (Necessary, unnecessary, neutral) for tail docking and teeth trimming.*
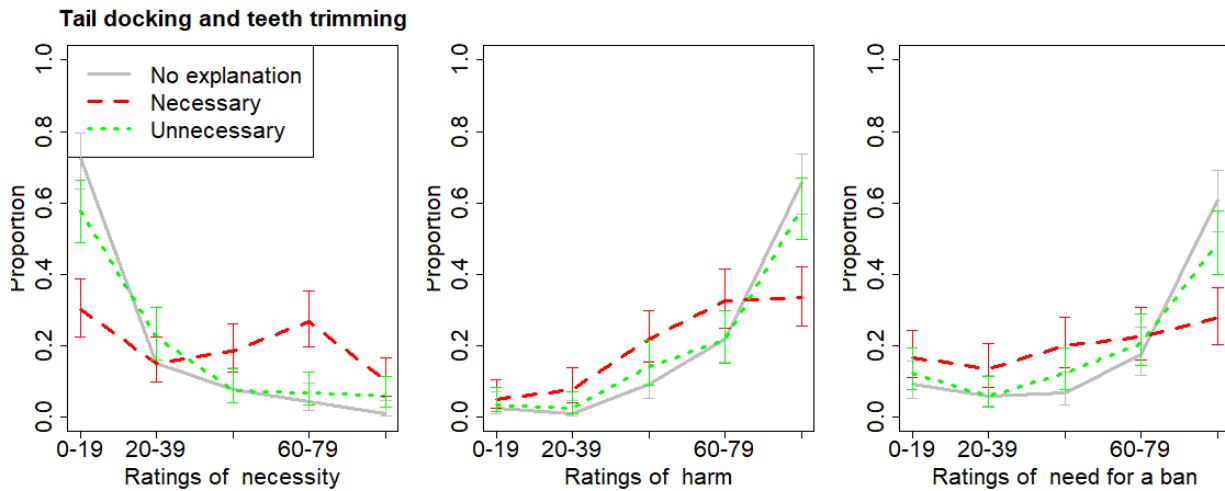
Interestingly, the way both of these descriptions were written emphasised that the practice is needed because it helps to improve the health and well-being of the animals by protecting the animals from themselves. It may be possible that people are quite susceptible to a narrative around farmers being stewards/protectors of the animals, and that the animals aren't competent enough to care for themselves - rather than the reality that the situation they are in causes them to behave in harmful ways.

None of the frames which emphasised why the practices were unnecessary had any effect. It's possible that the participants don't believe the "unnecessary" explanations that came along with the practices. This would be consistent with an anti-vegan bias, and possible cognitive dissonance resolution.

In summary, the harm (and therefore support for policies like bans) is influenced by participants' perception of the necessity of a practice, which is caused by a resolution of cognitive dissonance. In most cases, the way a practice is framed has no effect on attitudes - at least in this context where the participants were only exposed to a few short sentences without further context.