

# Beyond message framing

Participant characteristics predict social acceptability of  
increased deer culling in Scotland

**JESS FRATER | DPhil Student**

Wildlife Conservation Research Unit (WildCRU)

Department of Biology, University of Oxford

[jessica.frater@biology.ox.ac.uk](mailto:jessica.frater@biology.ox.ac.uk)

# Beyond message framing

Participant characteristics predict social acceptability of increased deer culling in Scotland



**1 Background**

**2 Relevance**

**3 Methods**

**4 Key findings**

**5 Conclusions**

# Deer are iconic animals in Scotland





# Increasing numbers are causing problems





# New legislation to increase annual cull



Home > Bills and Laws > Bills (proposed laws) > Natural Environment (Scotland) Bill

## Natural Environment (Scotland) Bill

The Bill introduces measures to protect the natural environment.

**This is a Government bill**

The Bill was introduced on 19 February 2025 and is at Stage 3

Introduced   Stage 1   Stage 2   Stage 3   Act

✓   ✓   ✓   ⏰  

This Bill is at Stage 3 of the process to decide if it should become an Act.

**Ethically contentious...**

# Beyond message framing

Participant characteristics predict social acceptability of increased deer culling in Scotland

## 1 Background

New legislation to increase the deer cull is ethically contentious

## 2 Relevance

## 3 Methods

## 4 Key findings

## 5 Conclusions

# Deer management is frequently in the news

## Gamekeepers signal opposition to DMNRO proposals

24th March

DEER STALKING ENVIRONMENT SCOTLAND



By Jody Harrison  
Reporter

X@jodeharrisonHT

Share



5 Comments



## Scotland's deer cull. Is it really about 'class envy'?

14th November 2023

ENVIRONMENT NATURE

Allan  
ures writer



4 Comments

## Cull of 150,000 deer aims to save Scottish forests



Deer that are shot to preserve the landscape will be used for food

ALAMY

More than 150,000 deer are to be culled across Scotland over the next five years as part of a multimillion-pound scheme to protect the country's trees.

## Landowners could be told to cull more deer for nature protection

ins to manage populations that are threatening



Scotland's red deer population is estimated to have exceeded one million (I

There is, according to a Spectator column published last month by 'being waged by the SNP and Greens. It is one "motivated by class er up as a high-minded attempt to save the planet".

## Nature group and Highland community clash over deer cull

The John Muir Trust has angered neighbours in Assynt with an out-of-season cull at Quinag.

Katharine Hay • Wednesday 11 January 2023 17:00 GMT



Deer culline by the John Muir Trust has been met with resistance by a croftine community in the Highlands (Scottish Gamekeepers Association/PA)

# Framing

*Assigning greater weight to certain elements of an issue over others.*  
(Entman, 1993)



# Framing

*Assigning greater weight to certain elements of an issue over others.*  
(Entman, 1993)



# Framing

*Assigning greater weight to certain elements of an issue over others.*  
(Entman, 1993)



# Framing

*Assigning greater weight to certain elements of an issue over others.*  
(Entman, 1993)

## [PDF] News framing: Theory and typology

[CH De Vreese](#) - Information design journal+ document design, 2005 - academia.edu

... here appear to be interesting differences between European journalistic traditions, at least concerning the **framing** of **news** in terms of economic consequences. **Framing news** in terms ...

☆ Save  Cite Cited by 3694 Related articles All 13 versions 

## News framing theory and research

[D Tewksbury](#), [DA Scheufele](#) - Media effects, 2019 - taylorfrancis.com

... , **framing** research argues that **news frames** function to suggest how audiences can interpret an issue or event. In fact, **news frames** ... consequential processes in **news** consumption and ...

☆ Save  Cite Cited by 912 Related articles All 10 versions 



# Framing

*Assigning greater weight to certain elements of an issue over others.*  
(Entman, 1993)

## Five lessons to guide more effective biodiversity **conservation message framing**

AM Kusmanoff, [F Fidler](#), [A Gordon](#)... - **Conservation** ..., 2020 - Wiley Online Library

... basis is likely to be helpful for **framing conservation messages** because many of the behavior changes advocated in **conservation** are about sacrifice. **Messages** that motivate people to ...

☆ Save  Cite Cited by 196 Related articles All 9 versions

## It's the mind-set that matters: The role of construal level and **message framing** in influencing consumer efficacy and **conservation** behaviors

[K White](#), [R MacDonnell](#)... - Journal of Marketing ..., 2011 - journals.sagepub.com

... In the case of **conservation** behaviors such as recycling, we ... We propose the effect of **message framing** on **conservation** intentions ... We anticipate that that a loss-framed **message** will be ...

☆ Save  Cite Cited by 1102 Related articles All 7 versions

# Beyond message framing

Participant characteristics predict social acceptability of increased deer culling in Scotland

## 1 Background

New legislation to increase the deer cull is ethically contentious

## 2 Relevance

Lots of relevant literature and deer culling is topical in the news

## 3 Methods

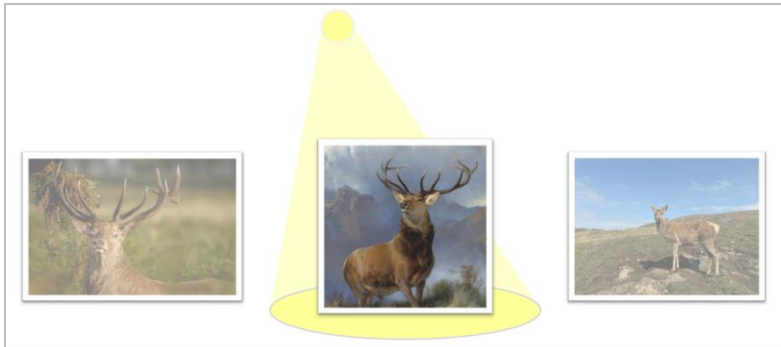
## 4 Key findings

## 5 Conclusions

# What did we want to know?

**Are perceptions of increasing the deer cull in Scotland affected by...**

**Message framing**



**Participant characteristics**





# What did we want to know?

**Are perceptions of increasing the deer cull in Scotland affected by...**

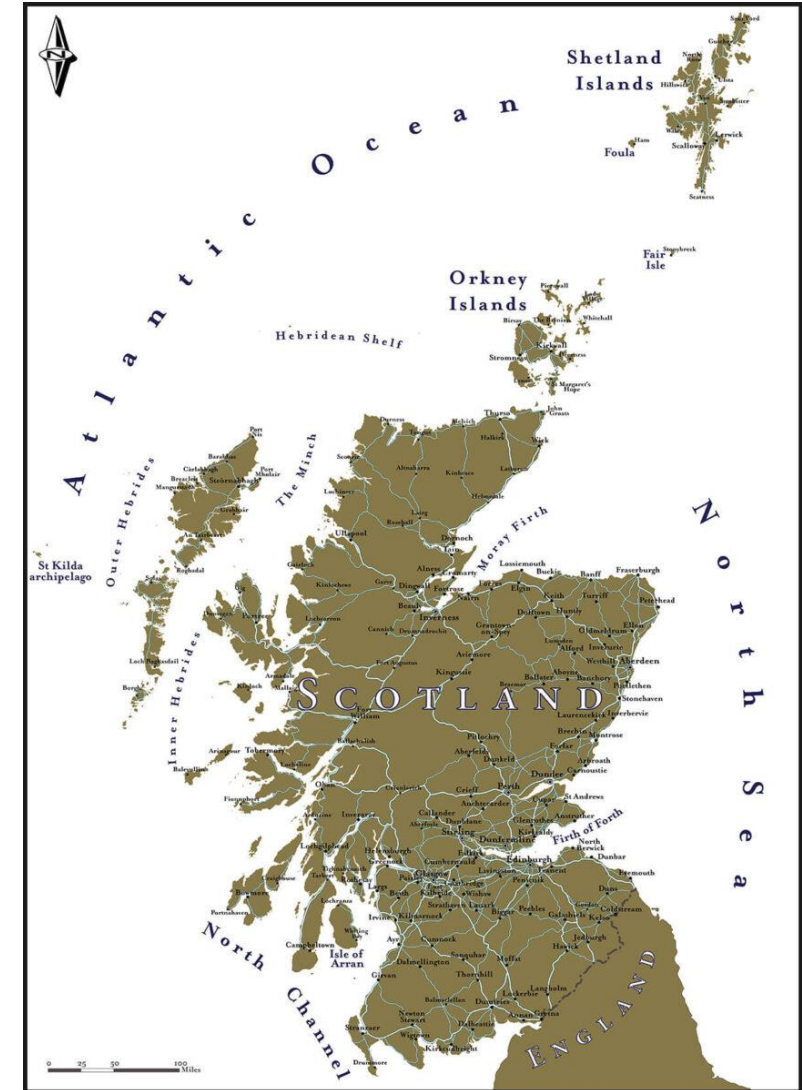
1. Different message framings in online news?
2. Differences in social identities?
3. General experiences and perceptions of deer?
4. Demographic characteristics?



# What did we do?



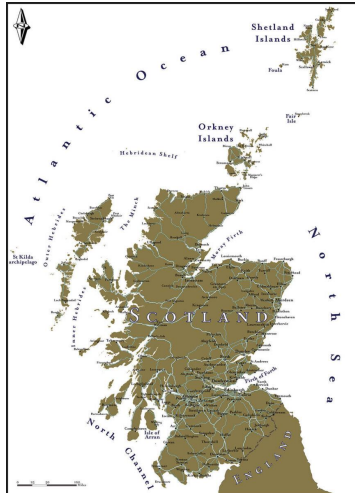
**Online experiment: 1,300 members  
of Scottish public (stratified)**



# What did we do?



**Online experiment: 1,300 members  
of Scottish public (stratified)**



## **Scottish Government propose new plans for deer management**



Biodiversity concerns are relevant to deer management. (Image: EarthPics)

**The Scottish Government recently unveiled controversial new plans for Scotland's deer, proposing a Deer Management Nature Restoration Order (DMNRO).**

It is estimated that the wild deer population in Scotland has doubled since 1990 to more than one million. Deer are currently managed by shooting on public and private land and voluntary culls by local deer management groups. However, the Scottish Government is considering deer management reform to reduce negative impacts of deer.

Deer are iconic Scottish animals but are causing damage due to their high numbers. In July 2023, the Scottish Government estimated that it spends almost £9 million per year on deer management.

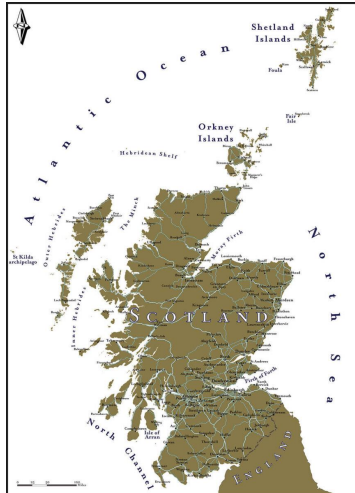
A Scottish Government spokesperson said: "culling more deer would increase biodiversity by protecting habitats such as woodlands and peatlands in Scotland".



# What did we do?



Online experiment: 1,300 members  
of Scottish public (stratified)



## Scottish Government propose new plans for deer management



Biodiversity concerns are relevant to deer management. (Image: EarthPics)

The Scottish Government recently unveiled controversial new plans for Scotland's deer, proposing a Deer Management Nature Restoration Order (DMNRO).

It is estimated that the wild deer population in Scotland has doubled since 1990 to more than one million. Deer are currently managed by shooting on public and private land and voluntary culls by local deer management groups. However, the Scottish Government is considering deer management reform to reduce negative impacts of deer.

Deer are iconic Scottish animals but are causing damage due to their high numbers. In July 2023, the Scottish Government estimated that it spends almost £9 million per year on deer management.

A Scottish Government spokesperson said: "culling more deer would increase biodiversity by protecting habitats such as woodlands and peatlands in Scotland".

How acceptable  
or unacceptable  
would it be to  
increase the deer  
cull in Scotland?

Heading remains identical in all articles

## Scottish Government propose new plans for deer management

**16 different  
mock online  
news articles**

Image frame



Biodiversity concerns are relevant to deer management. (Image: EarthPics)

Text that remains identical in all articles

**The Scottish Government recently unveiled controversial new plans for Scotland's deer, proposing a Deer Management Nature Restoration Order (DMNRO).**

It is estimated that the wild deer population in Scotland has doubled since 1990 to more than one million. Deer are currently managed by shooting on public and private land and voluntary culls by local deer management groups. However, the Scottish Government is considering deer management reform to reduce negative impacts of deer.

Deer are iconic Scottish animals but are causing damage due to their high numbers. In July 2023, the Scottish Government estimated that it spends almost £9 million per year on deer management.

**Text frame**

Gain/loss frame

A Scottish Government spokesperson said: "culling more deer would increase biodiversity by protecting habitats such as woodlands and peatlands in Scotland".

# Beyond message framing

Participant characteristics predict social acceptability of increased deer culling in Scotland

## 1 Background

New legislation to increase the deer cull is ethically contentious

## 2 Relevance

Lots of relevant literature and deer culling is topical in the news

## 3 Methods

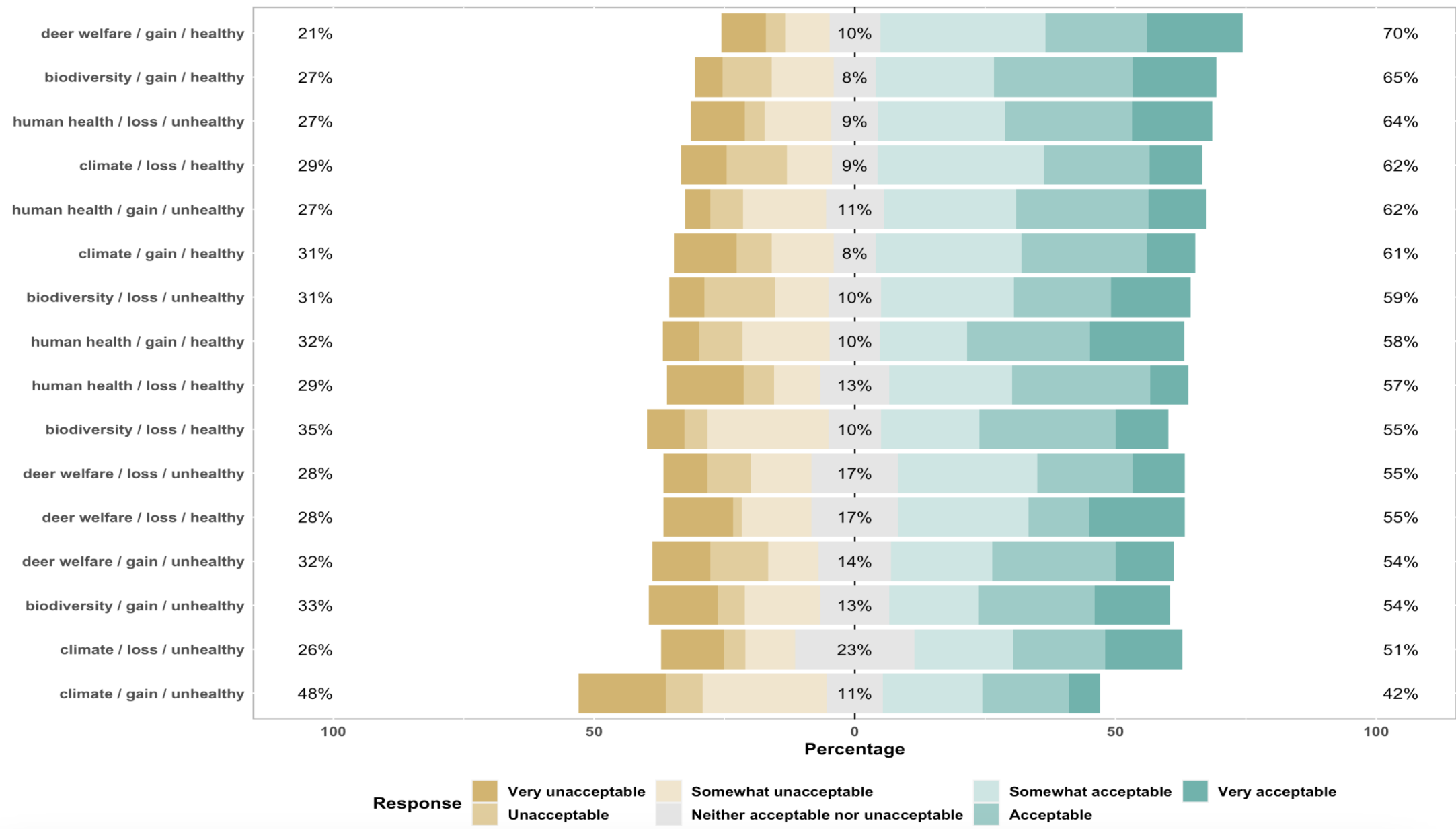
Mock online news articles with slightly different framings

## 4 Key findings

## 5 Conclusions

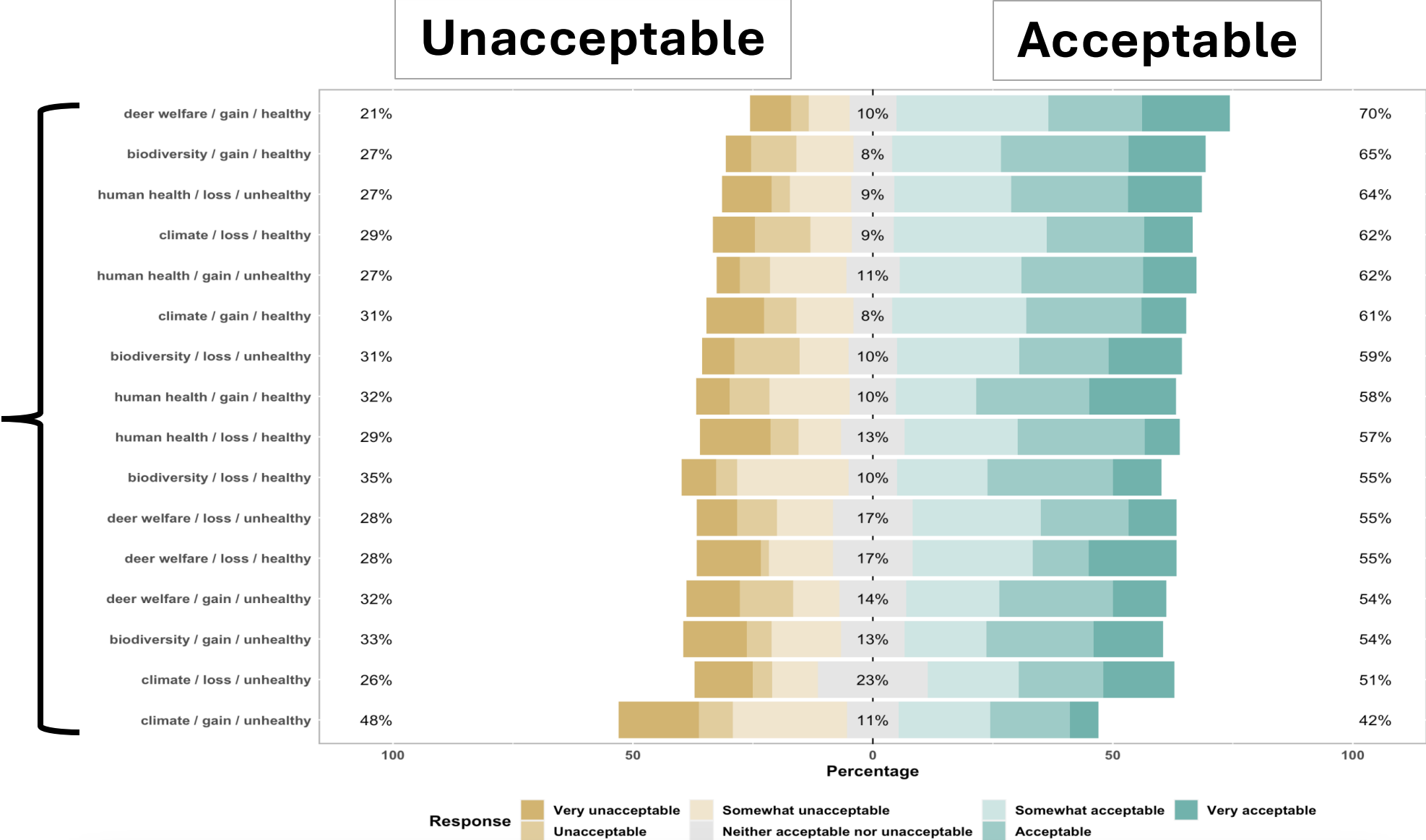


# What did we find?



# What did we find?

16  
different  
mock  
online  
news  
articles



# What did we find?



# What did we find?

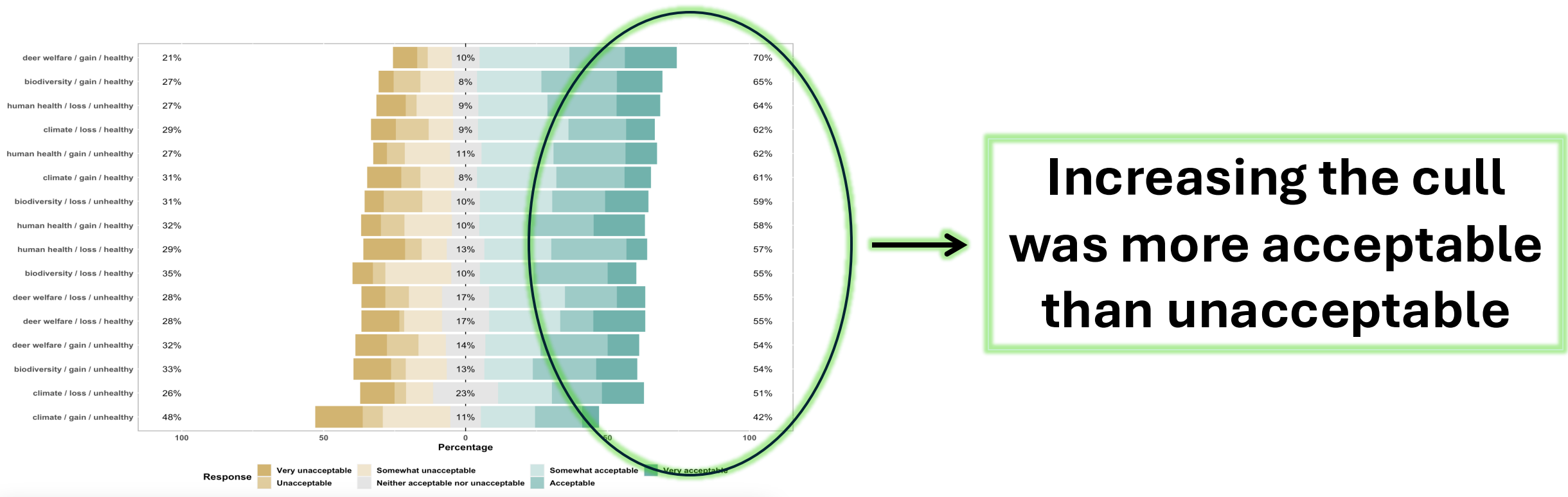




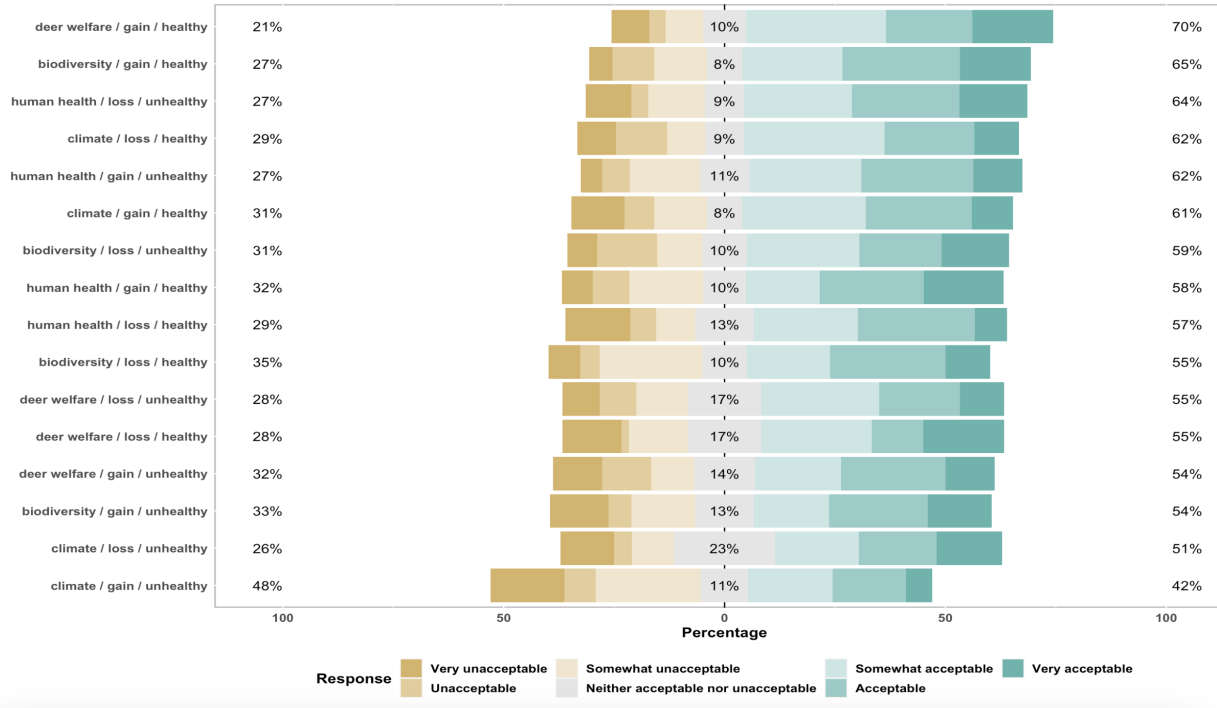
# What did we find?



# What did we find?



# What did we find?



**Little evidence that  
perceptions of  
acceptability were  
sensitive to message  
framing**

Increasing the cull  
was **more acceptable**  
than unacceptable

# What did we find?

deer welfare / gain / healthy	21%
biodiversity / gain / healthy	27%
human health / loss / unhealthy	27%
climate / loss / healthy	29%
human health / gain / unhealthy	27%
climate / gain / healthy	31%
biodiversity / loss / unhealthy	31%
human health / gain / healthy	32%
human health / loss / healthy	29%
biodiversity / loss / healthy	35%
deer welfare / loss / unhealthy	28%
deer welfare / loss / healthy	28%
deer welfare / gain / unhealthy	32%
biodiversity / gain / unhealthy	33%
climate / loss / unhealthy	26%
climate / gain / unhealthy	48%

Slightly more influence of the ‘healthy’ image frame

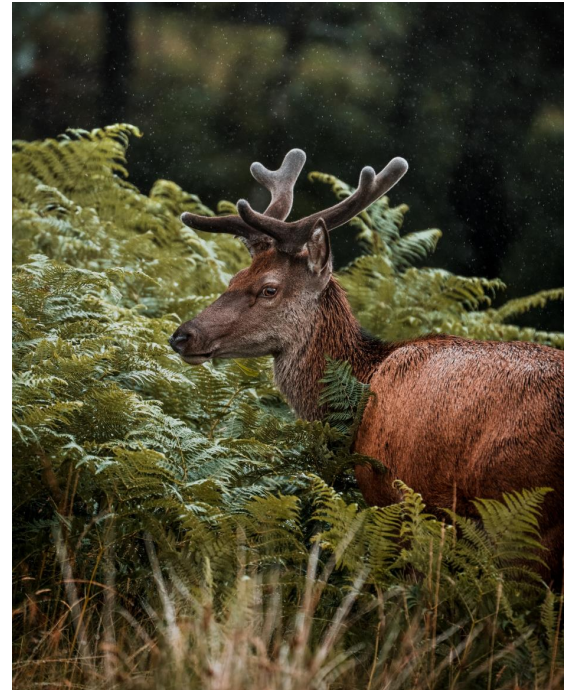
Little evidence that perceptions of acceptability were sensitive to message framing

Increasing the cull was **more acceptable** than unacceptable



# What did we find?

**Instead, participant characteristics explained differences in perception**

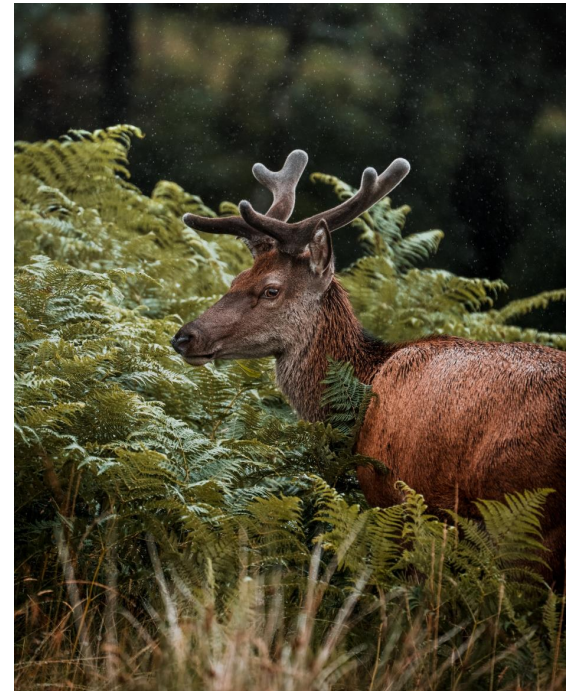


# What did we find?

**Instead, participant characteristics explained differences in perception**

**More likely to say increasing the cull was acceptable if they:**

1. Identify more strongly as a **deer stalker**
2. Identify less strongly as an **animal protectionist**
3. Identify as **male**
4. Have greater **trust** in the Scottish Government
5. Are already **aware** of the annual deer cull
6. Think the number of deer in Scotland is **too high**
7. Encounter deer **less frequently**

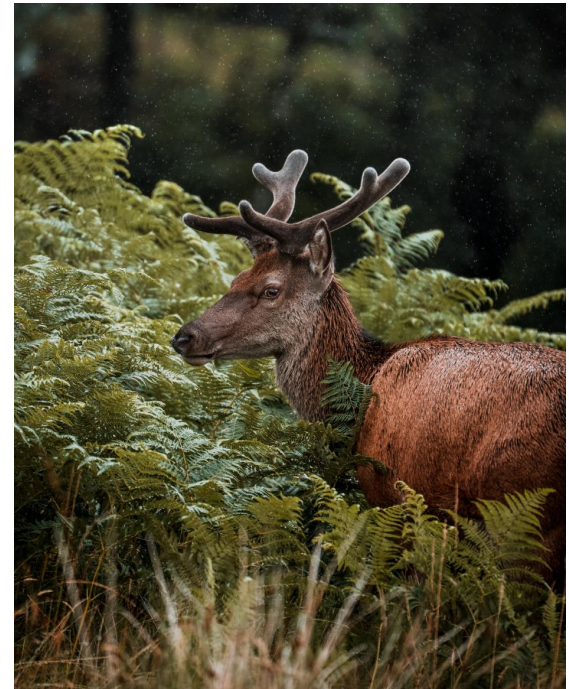


# What did we find?

**Instead, participant characteristics explained differences in perception**

**More likely to say increasing the cull was acceptable if they:**

1. Identify more strongly as a **deer stalker**
2. Identify less strongly as an **animal protectionist**
3. Identify as **male**
4. Have greater **trust** in the Scottish Government
5. Are already **aware** of the annual deer cull
6. Think the number of deer in Scotland is **too high**
7. Encounter deer **less frequently**

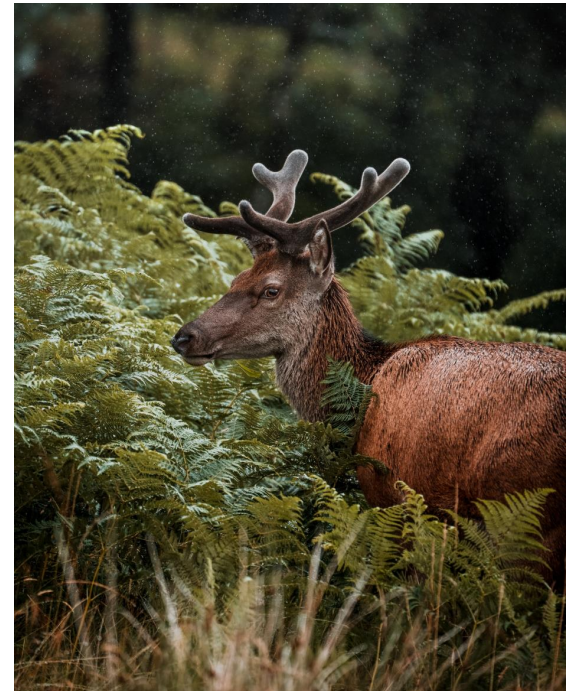


# What did we find?

**Instead, participant characteristics explained differences in perception**

**More likely to say increasing the cull was acceptable if they:**

1. Identify more strongly as a **deer stalker**
2. Identify less strongly as an **animal protectionist**
3. Identify as **male**
4. Have greater **trust** in the Scottish Government
5. Are already **aware** of the annual deer cull
6. Think the number of deer in Scotland is **too high**
7. Encounter deer **less frequently**



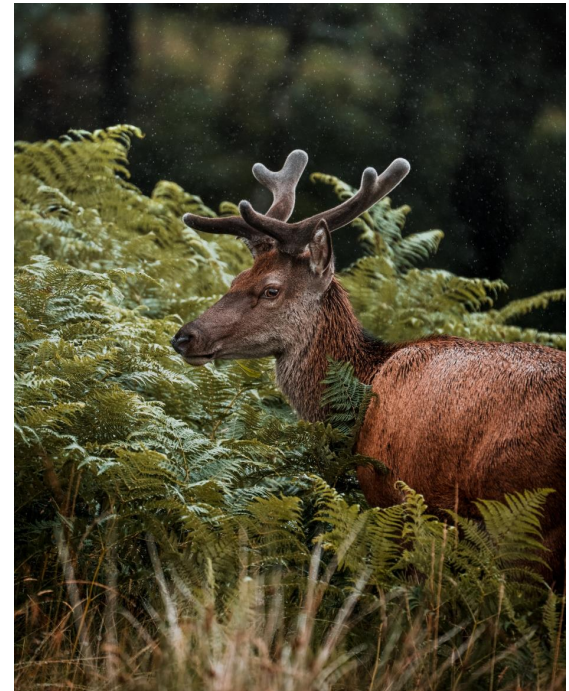


# What did we find?

**Instead, participant characteristics explained differences in perception**

**More likely to say increasing the cull was acceptable if they:**

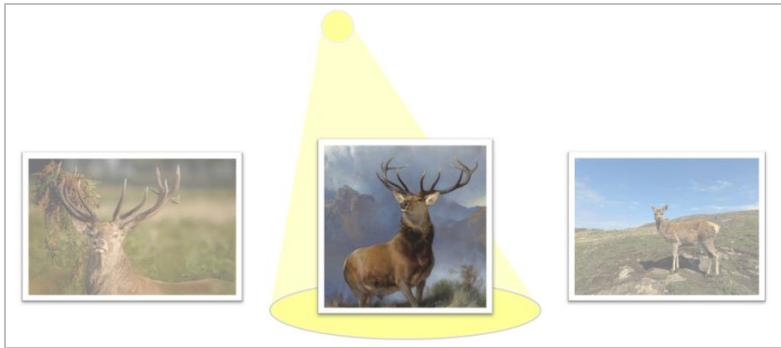
1. Identify more strongly as a **deer stalker**
2. Identify less strongly as an **animal protectionist**
3. Identify as **male**
4. Have greater **trust** in the Scottish Government
5. Are already **aware** of the annual deer cull
6. Think the number of deer in Scotland is **too high**
7. Encounter deer **less frequently**



# What did we find?

**Are perceptions of increasing the deer cull in Scotland affected by...**

**Message framing**

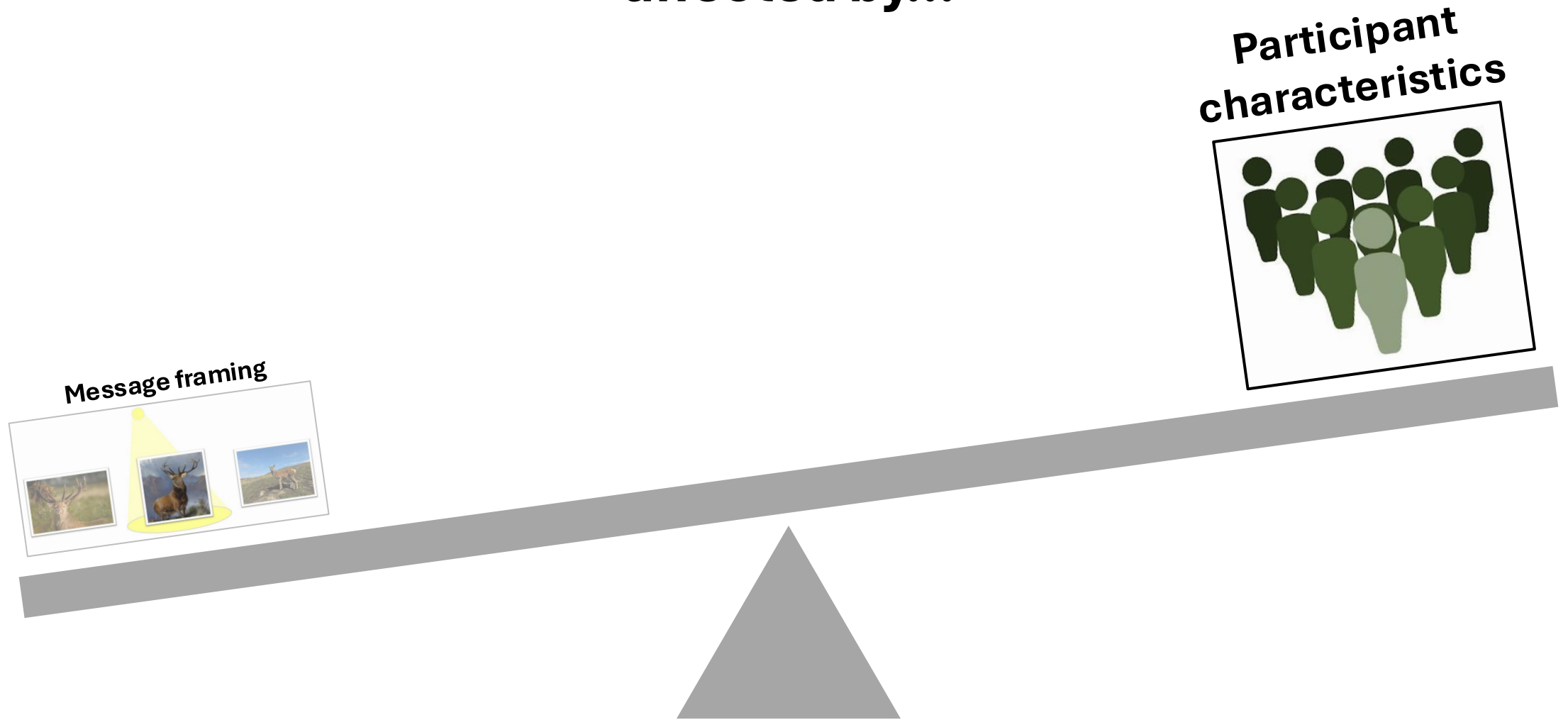


**Participant characteristics**



# What did we find?

Are perceptions of increasing the deer cull in Scotland affected by...



# Beyond message framing

Participant characteristics predict social acceptability of increased deer culling in Scotland

## 1 Background

New legislation to increase the deer cull is ethically contentious

## 2 Relevance

Lots of relevant literature and deer culling is topical in the news

## 3 Methods

Mock online news articles with slightly different framings

## 4 Key findings

Participant characteristics more influential than message framing

## 5 Conclusions



# Conclusions

## Scottish Government propose new plans for deer management



Biodiversity concerns are relevant to deer management. (Image: EarthPics)

**The Scottish Government recently unveiled controversial new plans for Scotland's deer, proposing a Deer Management Nature Restoration Order (DMNRO).**

It is estimated that the wild deer population in Scotland has doubled since 1990 to more than one million. Deer are currently managed by shooting on public and private land and voluntary culls by local deer management groups. However, the Scottish Government is considering deer management reform to reduce negative impacts of deer.

Deer are iconic Scottish animals but are causing damage due to their high numbers. In July 2023, the Scottish Government estimated that it spends almost £9 million per year on deer management.

A Scottish Government spokesperson said: "culling more deer would increase biodiversity by protecting habitats such as woodlands and peatlands in Scotland".

# Conclusions

Perceptions **not**  
**very susceptible**  
to message frames  
in the media for  
this issue

## Scottish Government propose new plans for deer management



Biodiversity concerns are relevant to deer management. (Image: EarthPics)

**The Scottish Government recently unveiled controversial new plans for Scotland's deer, proposing a Deer Management Nature Restoration Order (DMNRO).**

It is estimated that the wild deer population in Scotland has doubled since 1990 to more than one million. Deer are currently managed by shooting on public and private land and voluntary culls by local deer management groups. However, the Scottish Government is considering deer management reform to reduce negative impacts of deer.

Deer are iconic Scottish animals but are causing damage due to their high numbers. In July 2023, the Scottish Government estimated that it spends almost £9 million per year on deer management.

A Scottish Government spokesperson said: "culling more deer would increase biodiversity by protecting habitats such as woodlands and peatlands in Scotland".

# Conclusions

Perceptions **not very susceptible** to message frames in the media for this issue

Scottish Government propose new plans for deer management



Biodiversity concerns are relevant to deer management. (Image: EarthPics)

The Scottish Government recently unveiled controversial new plans for Scotland's deer, proposing a Deer Management Nature Restoration Order (DMNRO).

It is estimated that the wild deer population in Scotland has doubled since 1990 to more than one million. Deer are currently managed by shooting on public and private land and voluntary culls by local deer management groups. However, the Scottish Government is considering deer management reform to reduce negative impacts of deer.

Deer are iconic Scottish animals but are causing damage due to their high numbers. In July 2023, the Scottish Government estimated that it spends almost £9 million per year on deer management.

A Scottish Government spokesperson said: "culling more deer would increase biodiversity by protecting habitats such as woodlands and peatlands in Scotland".

Acceptability predicted by the **type of person** you are, not the **type of article** you read

# Beyond message framing

Participant characteristics predict social acceptability of increased deer culling in Scotland

## 1 Background

New legislation to increase the deer cull is ethically contentious

## 2 Relevance

Lots of relevant literature and deer culling is topical in the news

## 3 Methods

Mock online news articles with slightly different framings

## 4 Key findings

Participant characteristics more influential than message framing

## 5 Conclusions

Acceptability predicted by type of person, not type of news article



# Thank you!

## Beyond message framing

Participant characteristics predict social acceptability  
of increased deer culling in Scotland

**JESS FRATER** | DPhil Student | [jessica.frater@biology.ox.ac.uk](mailto:jessica.frater@biology.ox.ac.uk)

**Collaborators:** Dr Mike Daniels, Jess Tacey, Dr Paul Johnson, Emily K. Madsen, Dr Darragh Hare

**Funders:** Scottish Environment LINK, School of Geography and the Environment (University of Oxford)

### Scottish Government propose new plans for deer management



Biodiversity concerns are relevant to deer management. (Image: EarthPics)

The Scottish Government recently unveiled controversial new plans for Scotland's deer, proposing a Deer Management Nature Restoration Order (DMNRO).

It is estimated that the wild deer population in Scotland has doubled since 1990 to more than one million. Deer are currently managed by shooting on public and private land and voluntary culls by local deer management groups. However, the Scottish Government is considering deer management reform to reduce negative impacts of deer.

Deer are iconic Scottish animals but are causing damage due to their high numbers. In July 2023, the Scottish Government estimated that it spends almost £9 million per year on deer management.

A Scottish Government spokesperson said: "culling more deer would increase biodiversity by protecting habitats such as woodlands and peatlands in Scotland".