

The 3Rs Talent Award:

Understanding Animal Discomfort

Acknowledgements



Mette Herskin, AU



Heleen Boswijk, WUR



Marc Bagaria, IRTA



Emma Fàbrega, IRTA



Rebecka Westin, SLU



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Animal discomfort: A concept analysis using the domesticated pig (*Sus scrofa*) as a model

Guilherme A. Franchi ^a  , Marc Bagaria ^b, Heleen Boswijk ^c, Emma Fàbrega ^b, Mette S. Herskin ^a, Rebecka Westin ^d

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Drying-off



Animal transport



Conventional production



Feed additives





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What is animal discomfort?



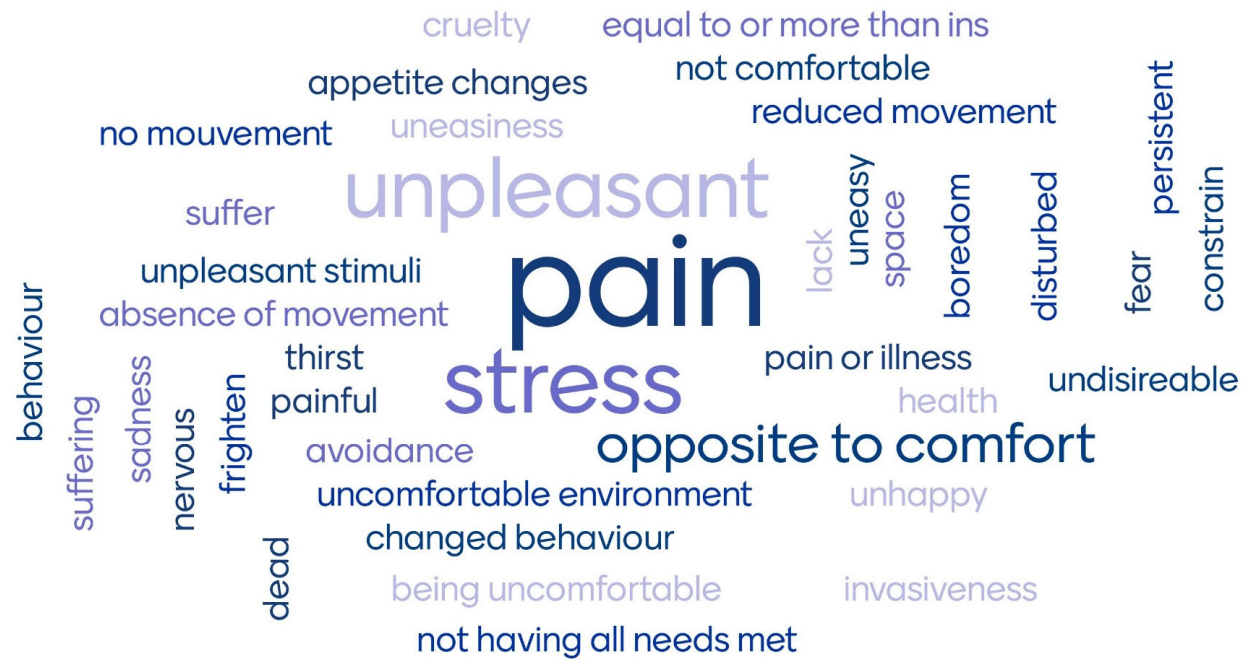
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How do you interpret animal discomfort?

62 responses



Concept analysis

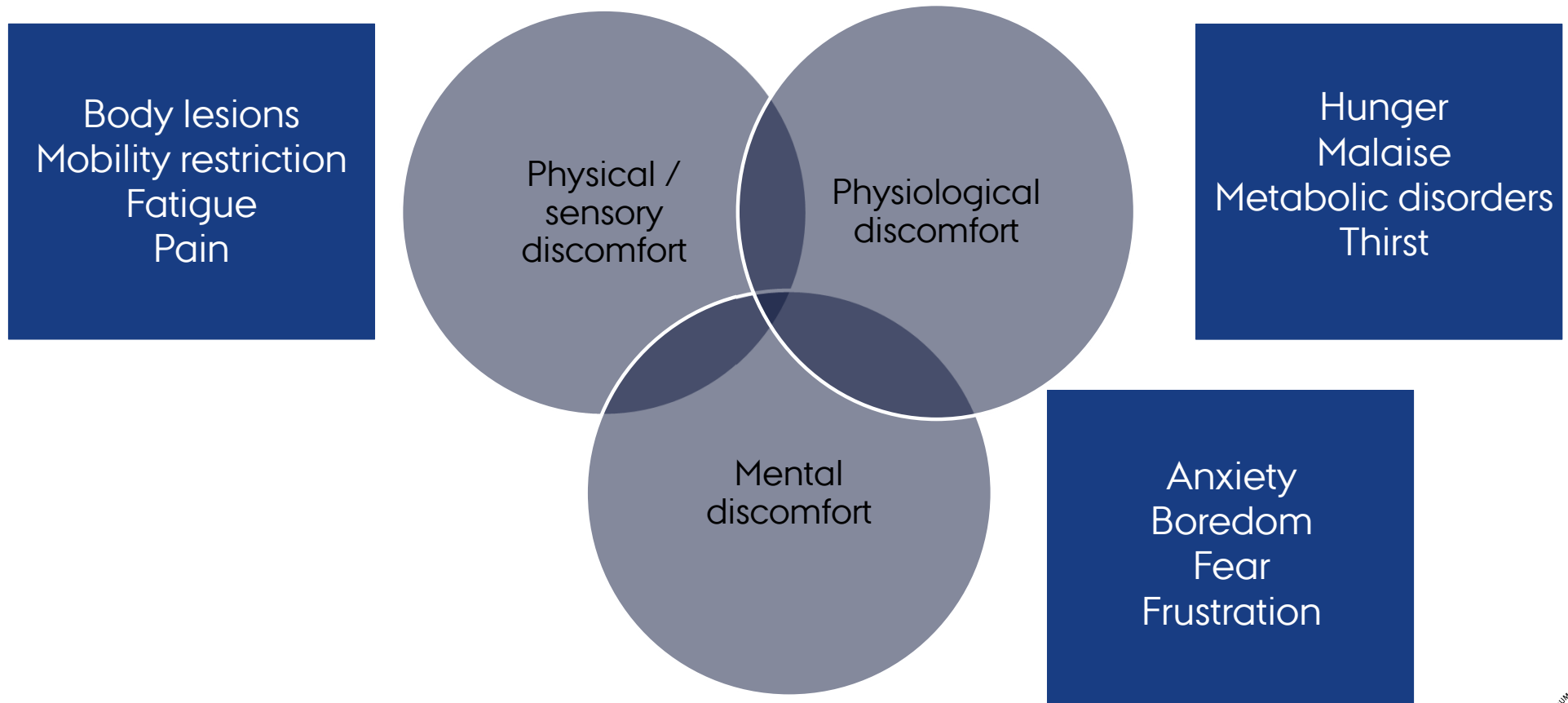
Operational definition of “animal discomfort” using domesticated pigs as a model

Walker and Avant (2005) concept analysis method

→ Dissection of a concept into simpler elements to promote clarity

2,594 publications collected → 118 publications retained for analysis

Literature uses of “animal discomfort” term



Antecedents and consequences

Antecedents: events eliciting mild-to-severe negative emotional experiences

- Physical (e.g., pain, body lesions, limited movement)
- Physiological (e.g., nutrient deficiency, impaired metabolism)
- Mental (e.g., social isolation, handling, novelty)

Consequences: animals' attempts to evade or minimize the source(s) of this affective state

Defining attributes

Attributes
Physical or mental negative state
Unpleasant sensory or emotional experience
Homeostatic mechanisms challenged by environmental changes and consequent biological, physical, or mental alterations
Behavioral signs of avoidance or attempt to reduce the source of discomfort

Model case – Pigs kept in metabolic cages



Model case – Pigs kept in metabolic cages

Physical/Mental features

- Restricted space
- Thwarted behavior repertoire
- Social isolation

Challenged homeostasis

- Sudden and relatively long-lasting change in housing

Unpleasant emotional experience

- Human handling
- Insertion of catheters

Behavioral signs of avoidance

- Bar-biting /-chewing
- Vocalisations



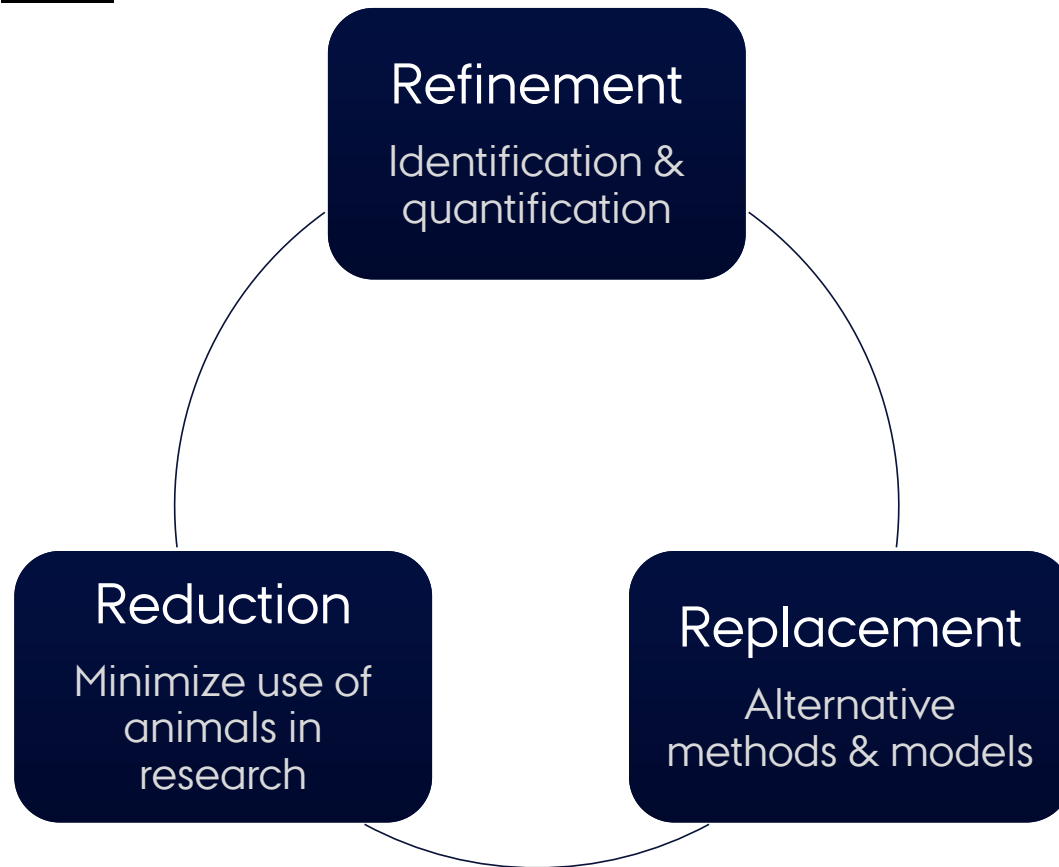
Credit: Guilherme A. Franchi

Operational definition of animal discomfort

“The animal is in a **short- or long-term negative emotional state** caused by **internal or external factors**, affecting the animal **physically, physiologically, and/or mentally**. This leads the animal to **attempt to avoid or alleviate** the source of discomfort”



3Rs concept and research perspectives



Walker and Avant concept:

- Animal welfare-related terms
- Animal species (farm and biomedicine models)
- Other contexts

Chance for collaboration, not for blaming

Harmonization of pig research

PIGWEB aims to contribute to the goals of the European Green Deal and the 'Farm to Fork' strategy, by strengthening the pig research community and developing solutions for sustainable pig production systems. One challenge is variation in transposition of the European Directive on the protection of animals used for scientific purposes into national legislation. This variation can hinder scientific progress and raise ethical concerns. To harmonize pig research, we propose three key recommendations.

Download the Policy Paper



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Getting to the bottom of animal discomfort

What exactly is meant by animal discomfort? A new policy brief proposes a standardised definition as a step to more sustainable and welfare-oriented livestock production.

