The role of stockperson beliefs and behaviour in the welfare of extensively managed sheep

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In intensive systems, stockperson attitude and behaviour affect animal fear, welfare and productivity.

Are similar relationships present in extensively managed animals with infrequent direct human contact?
Introduction

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Interactions with humans (and dogs)
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  • But animals handled positively were more relaxed in the presence of humans (Richmond et al., 2013, AWIN)
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• Does stockperson attitude affect management decisions that have an impact on sheep welfare?
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• Stockpersons can affect sheep welfare by:
  – Direct interactions with sheep
  – Indirectly through management decisions that impact on welfare
Study 1: Management and perception

- Survey on gathering sent to 80 hill farmers in Scotland, Wales and England
  - Questions on management and beliefs about gathering sheep
- 37 respondents (46%): sheep gathered 2-20 times per year (median=5); time taken 2-16 hours (median=4)
- Followed by visits to 11 farms to collect data on gather process (time, metrics, behaviour, recovery after gather)
Study 2

- Data on handler behaviour collected on 18 shepherds from 6 different farms when moving animals in handing pens
- Behaviour scored for type, severity and frequency:
  - Physical interactions: Gentle, moderate, hard; Sounds: soft (low voice/tap), moderate (whistle, flap bag), loud (shout/clap/banging); Other behaviours: waving/flapping
  - frequency each used: never, few, some, many, continual
- Cluster analysis to identify handling ‘styles’
Gathering stress beliefs

Shepherd = dog > sheep: P < 0.05
Shepherd and sheep scores correlated, $R^2 = 0.55$, P < 0.001
Handling/shearing stress

Shepherd = sheep
Shepherd and sheep scores correlated, $R^2=0.21$, $P < 0.05$
On farm data collection

- Gather process highly variable animals at front and back of group
- Gathers took 2.7 h (1.2 – 3.8 h)
- Open-mouth panting seen in 73% flocks in up to 80% of ewes
- Recovery to normal behaviour = 67 mins (0 – 161 mins)
Handling styles

Gentle physical only

Moderate to loud noises, moderate to hard contacts

Quiet noises, hand gestures, no physical contact
Handling styles

- Frequent loud noises and moderate to hard contacts most frequently used style – 44.4%
  - Likely to be the most aversive to the sheep
- Quiet vocalisations and gestures only next most common – 38.9%
  - Likely to reduce animal stress from our other data
- Gentle contacts only not commonly used – 16.7%
  - If animals are touched generally contacts are moderate to hard
- Unable to compare directly to animal responses as often more than 1 handler present at the same time
- Similar styles were not always used on same farm
Discussion and conclusions

• Farmers may believe that their interactions with the sheep are less stressful than they really are
• In particular farmers often underestimate the stress of exposure to dogs
• Gathering is potentially most stressful for the most vulnerable sheep in the flock, but little research in this area
• Considerable variation in handling styles exist, even on same farm
• Our previous data suggests that this may affect the way sheep respond to handling
• On farm variation may also be an issue, as sheep cannot predict likely handling
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