The effects of training for behavioural tests on chicken welfare

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Introduction

Behavioural tests are often used to assess animal welfare but can require extensive handling and training (e.g., habituation and/or shaping) which could affect welfare and the test validity

Study aim:
Using a cognitive judgment bias test (CJBT), investigate the effects of training for a behavioural test on chicken welfare

CJBT Protocol

Spatial Go/No-Go CJBT (Hintze et al., 2018):
Stepwise training methodology adapted to chickens (follow QR code below for video)

- **Step 1:** Habituation to transport in a box to the training arena, social isolation & training elements inside the training arena
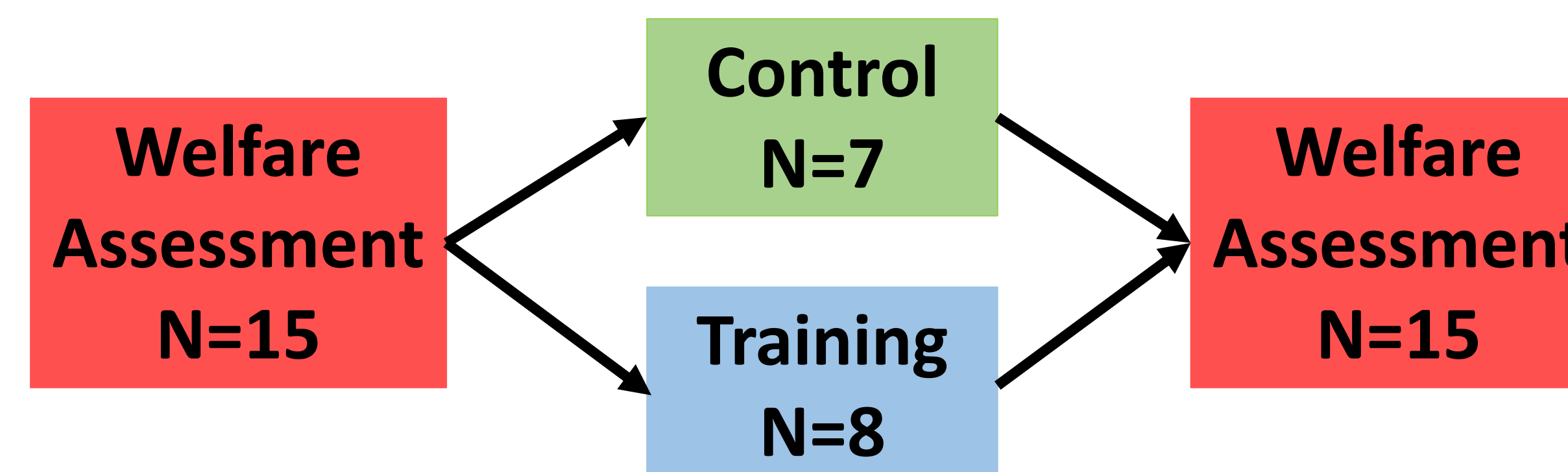- **Step 2:** Shaping to initiate trials by associating pecking a red bell with a food reward (mealworm)

Training progression:
19 sessions:
- Four chickens: Step 1
- Four chickens: Step 2

Study Design & Methods

Both groups were housed together in a single pen

Welfare assessment: Emergence, Open Field, Novel Object, Response to a Standing Human & Tonic Immobility Tests, & physical health measures

Statistical analysis: Linear mixed-models with 'treatment' and 'sampling time point' (1st and 2nd welfare assessments) & their interaction as fixed effects, & subject as random intercept

Conclusion

Habituation & shaping for a CJBT may positively affect fear-related welfare aspects

Outlook

To increase statistical power, the study continues with the complete CJBT training protocol

Results & Discussion

- No statistically significant interaction effect between treatment * sampling time point
- Descriptive analysis indicated an effect on escape behaviour in three tests

BEHAVIOURAL TESTS IN THE 1ST (PRE-TRAINING) AND 2ND (POST-TRAINING) WELFARE ASSESSMENTS
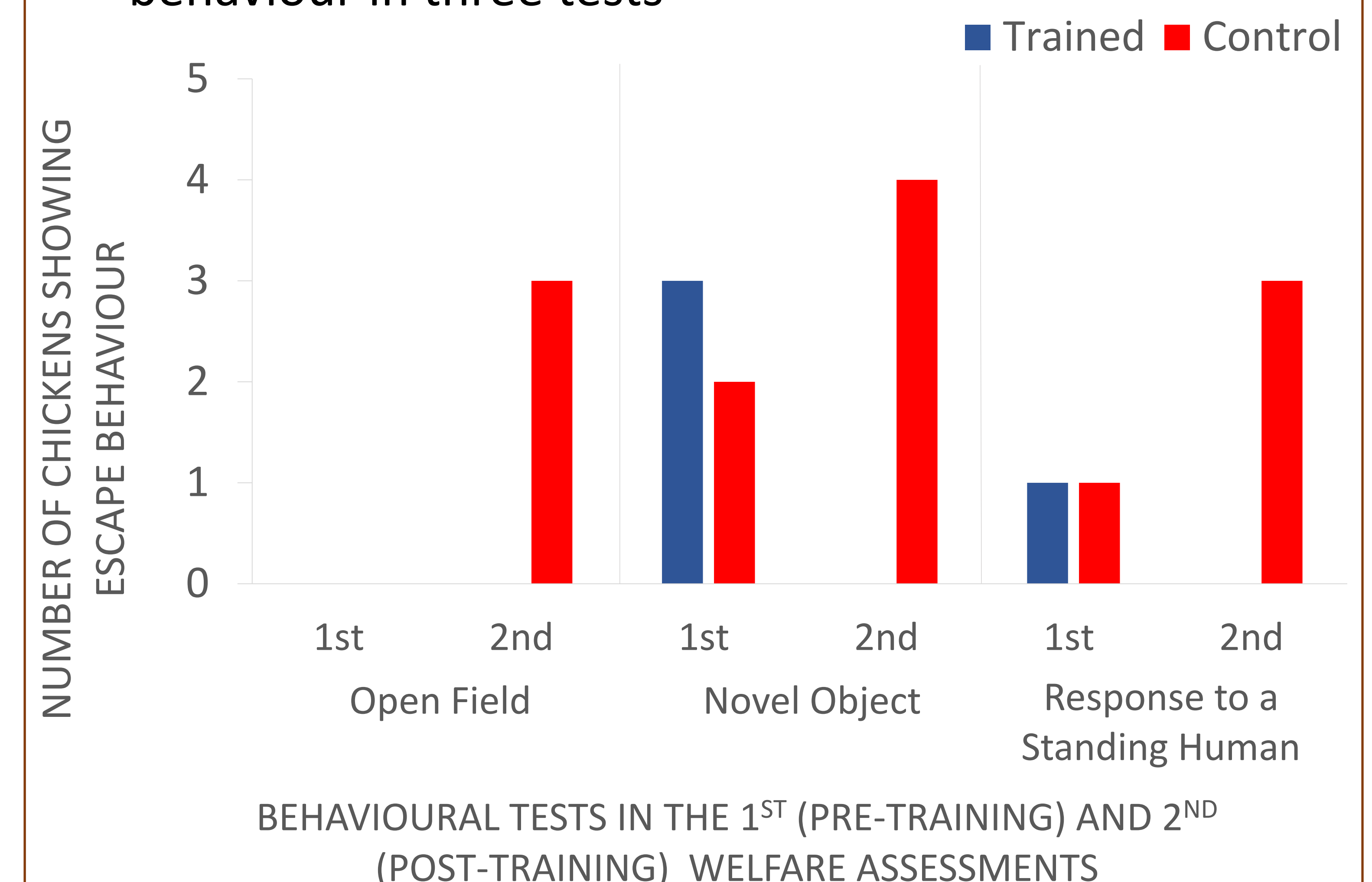
Control chickens showed more escape behaviour in the 2nd assessment
- Possibly related to flight behaviour & chickens tried to avoid something perceived as fear-inducing
- May also be related to social reinstatement motivation, with social isolation *per se* potentially fear-inducing