Does a self-loading positive reinforcement-based training improve loading procedures in meat horses?

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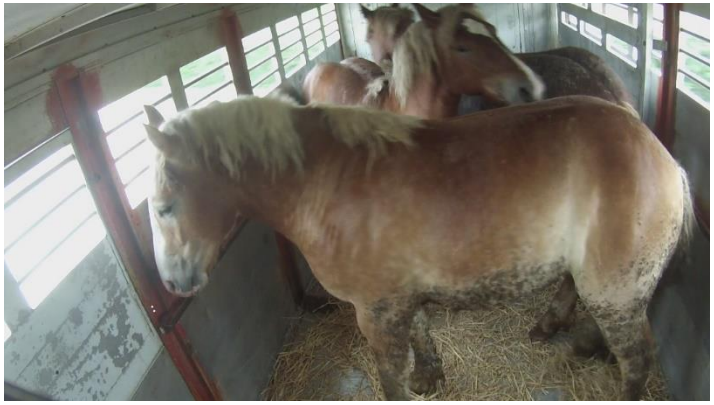
Introduction

Transport related stress

- Transport has been repeatedly demonstrated to cause significant stress in farm animals, including horses

  (Waran et al., 1995; Friend et al., 2000; Schmidt et al., 2010; …)



- Loading is considered one of the most stressful stages of animal transport

  (Trunkfield et al., 1990; Tateo et al., 2012)

Introduction
Risks

- Horses subjected to transport stress can be more susceptible to a number of disorders, such as pneumonias, diarrhoeas, colics, laminitis, injuries and rhabdomyolysis

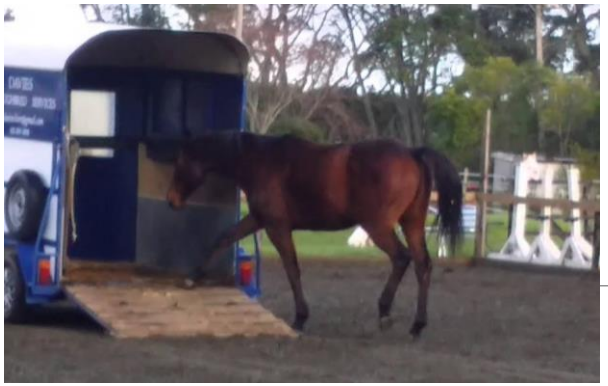
  (Cregier, 1982)

- Many horses fight during loading and owner's response often implies the use of physical force

  (Ferguson & Rosales-Ruiz, 2001; Padalino et al., 2016)

- Loading problems are also costly in time

  (Yngvesson et al., 2016; York et al., 2017)



Introduction

Training to load

In sport horses:

- ✓ Habituation to loading and travelling significantly reduces the likelihood that horses develop transport related behavioral problems and injury

  (Padalino et al., 2017; 2018)

- ✓ Loading training using positive reinforcement seems to reduce loading time and stress during loading

  (Shanahan, 2003; McGreevy, 2004)

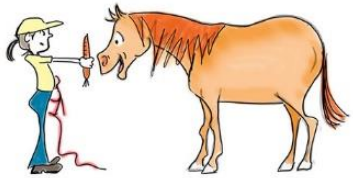
- ✓ Self-loading techniques reduce the likelihood of horses showing behavioral problems at loading

  (Padalino et al., 2017; 2018)

Aim
Hypothesis

In meat horses, training to load reduces:

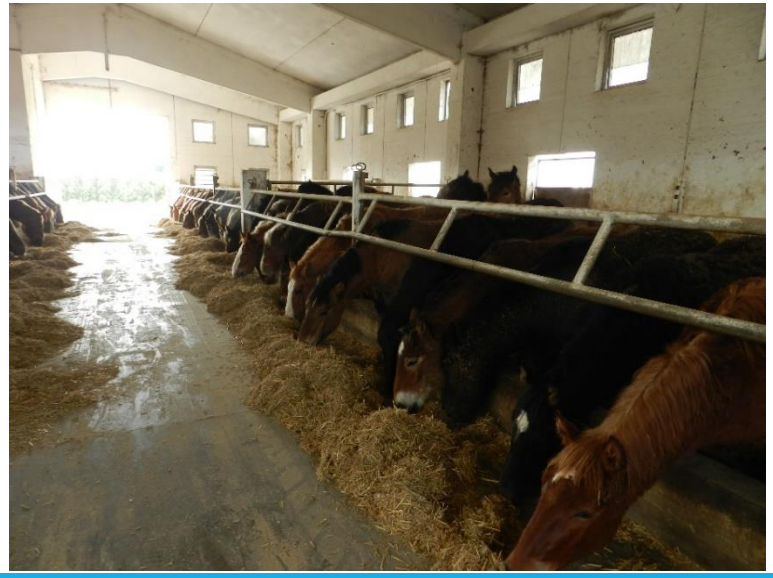
- stress-related behaviours
- human intervention needed



Material & Methods

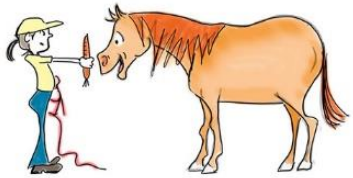
Animals and facility

- 32 meat horses (M=18; F=14; 6 months-old)
- limited interactions with the farmer
- not used to be restrained, conducted with a lead rope nor transported



Material & Methods

Training



Training group
N = 18

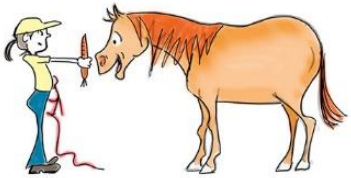
- Target training
- Positive
- 3 times/weeks
  6 weeks
  process
- Self loading

Control group
N = 14

No training

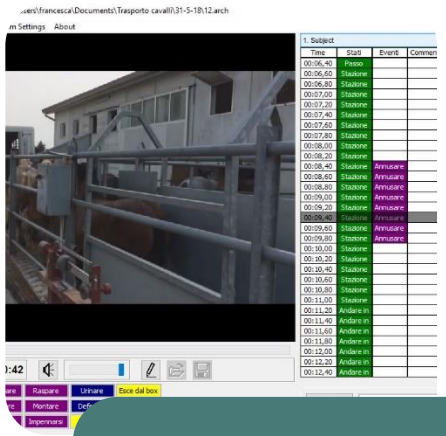
Material & Methods

Data collection

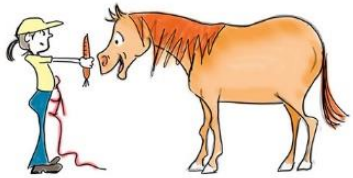


Loading phase video-recording

Loading time (stopwatch)



Behavioural analysis and human intervention analysis



Material & Methods

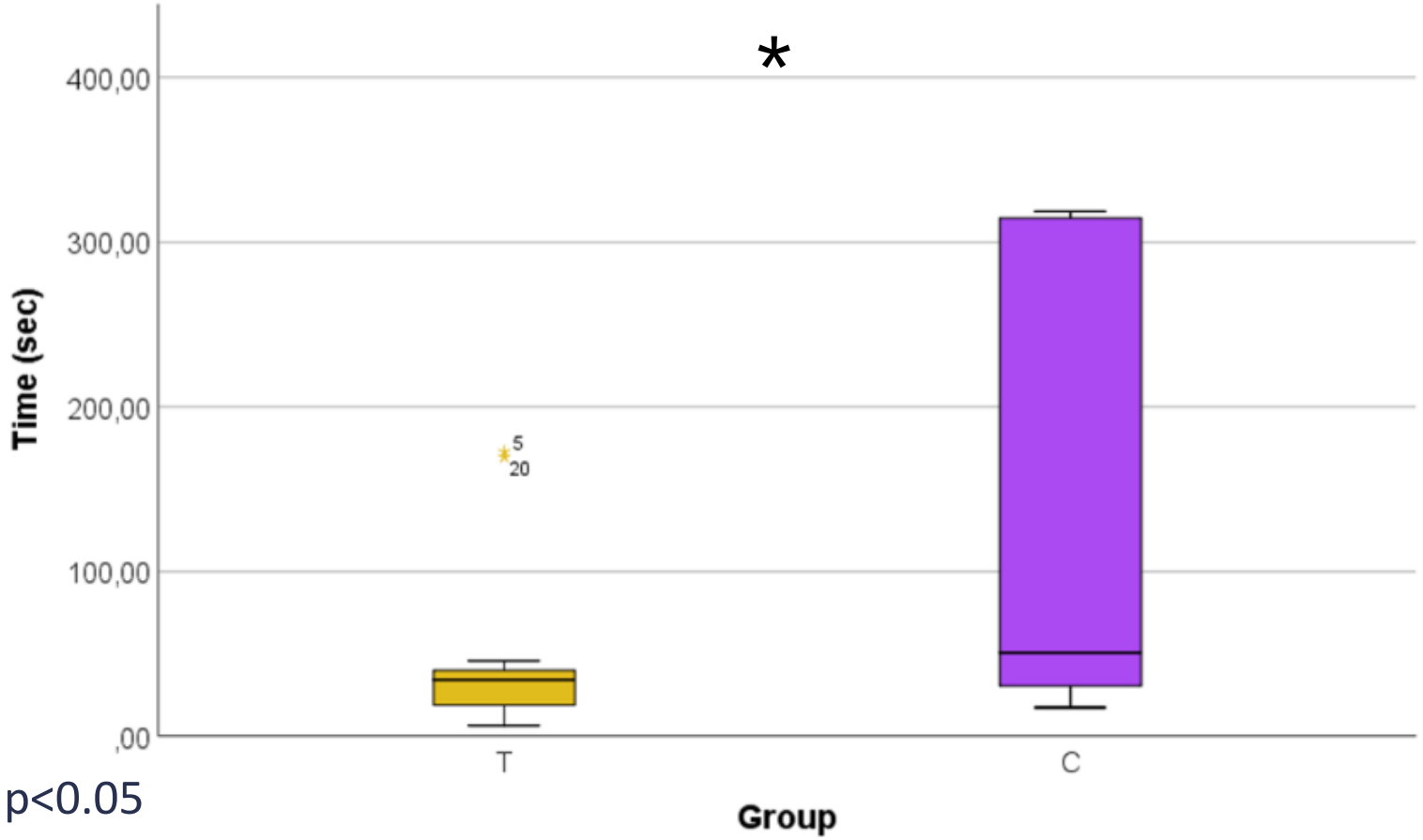
Statistical analysis

- ✓ Descriptive statistics
- ✓ Kolmogorov-Smirnov and Levene test
- ✓ Two-tailed t-test

SPSS Statistic version 25 (IBM Corp.)

Results and discussion

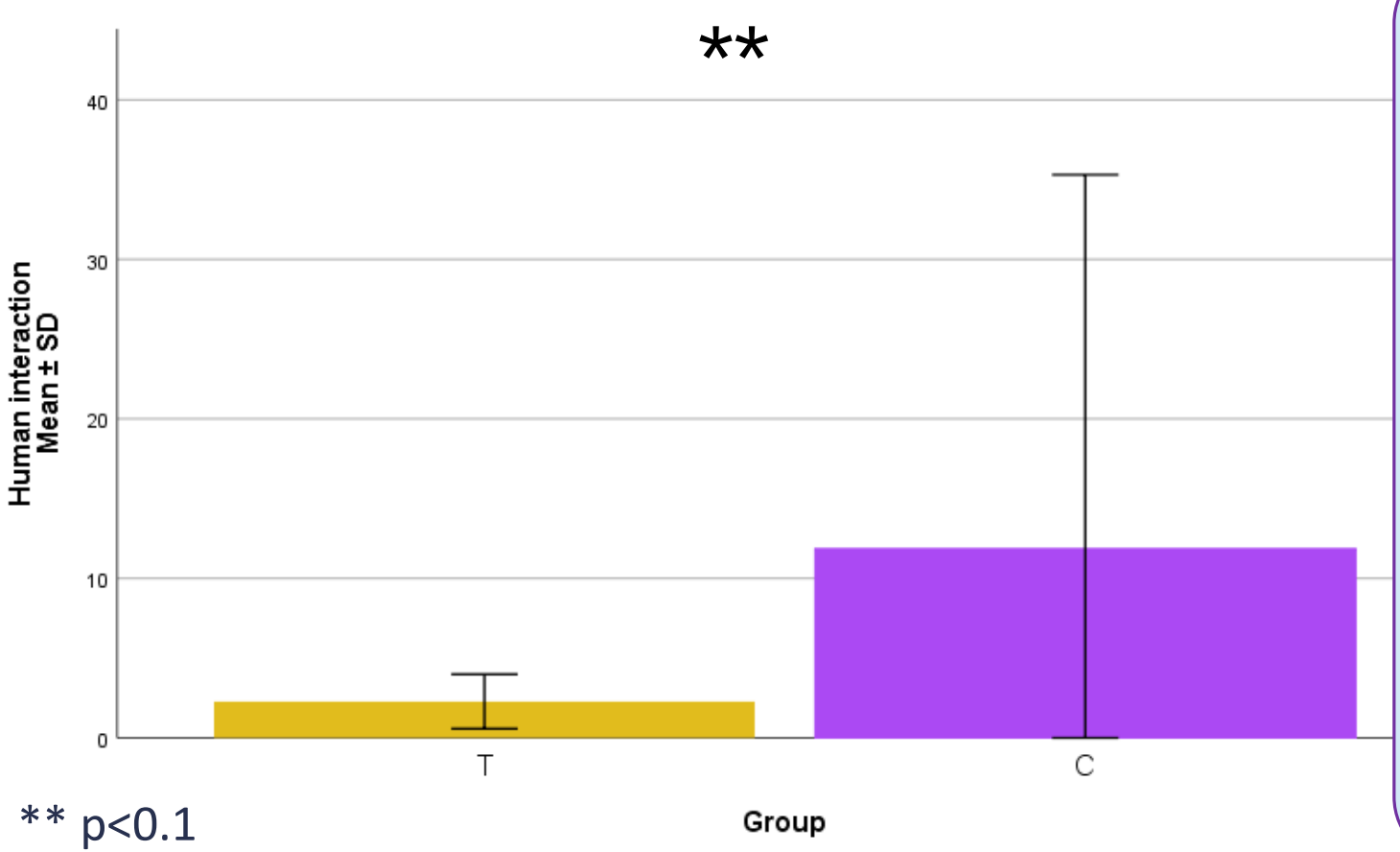
Time to load

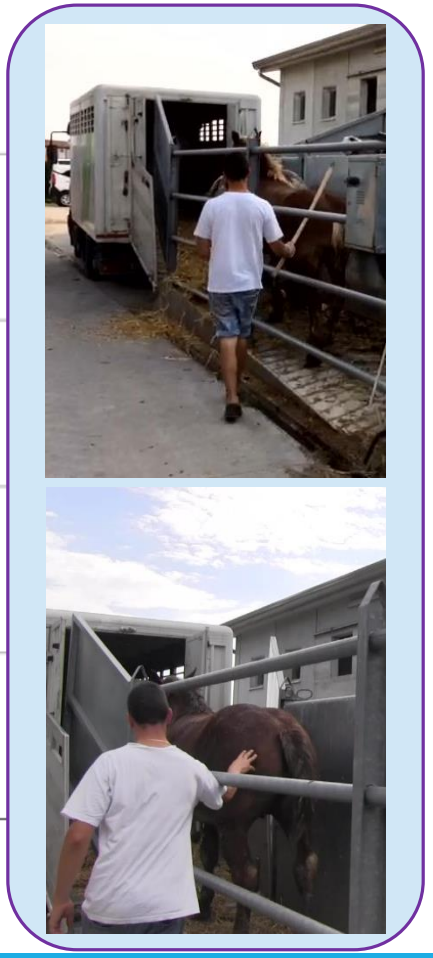


* p<0.05

Results and discussion

Human intervention

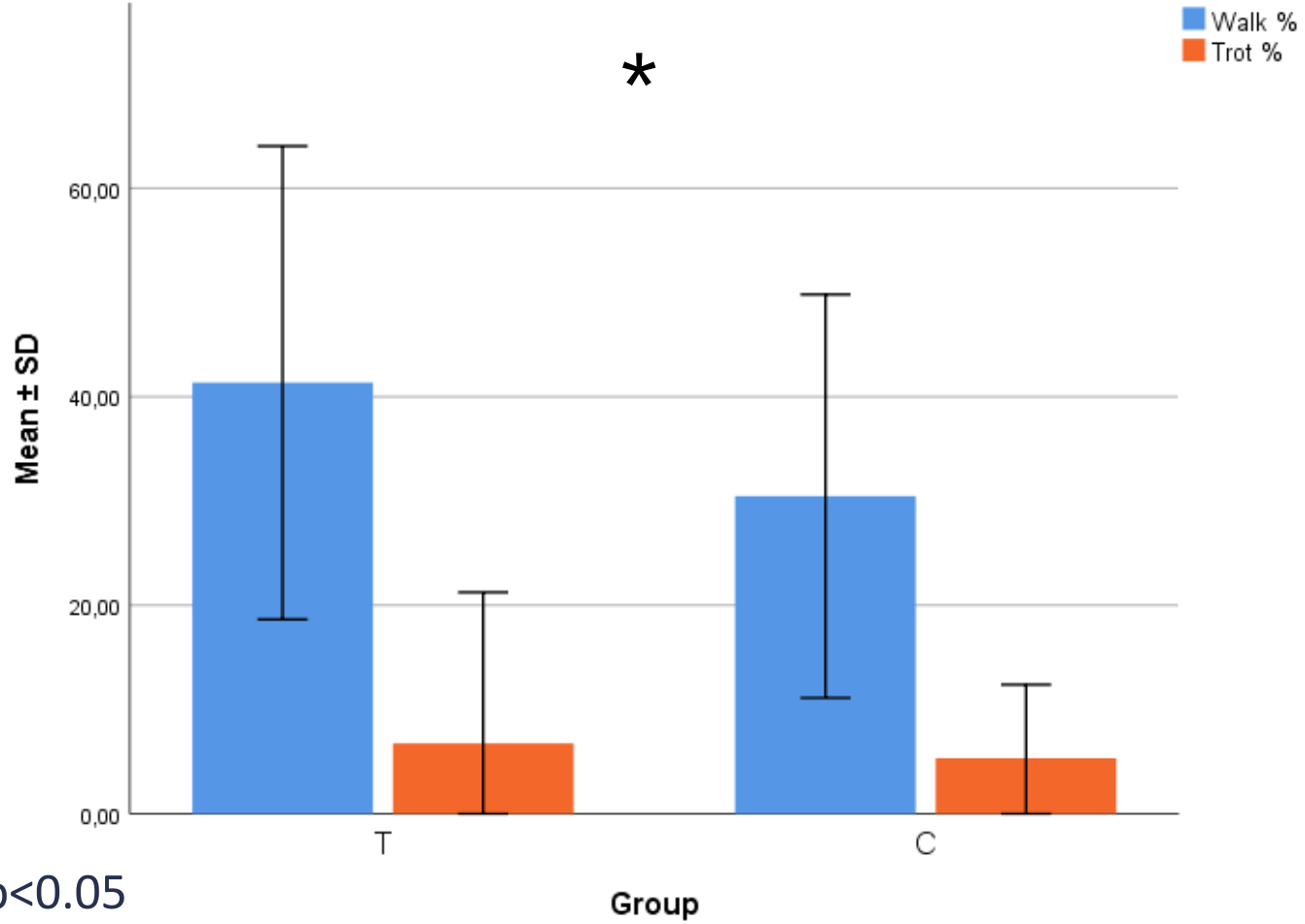




** p<0.1

Results and discussion

Behaviour



Control group

* p<0.05

Conclusion

Self-loading training may be useful to improve loading procedures in meat horses

- ✓ mitigating stress behaviours
- ✓ reducing time needed
- ✓ decreasing the need of human intervention

However

- △ horses were not completely naïve to transport
- △ interaction with humans is stressful *per se*
- △ duration of training

Thank you for your attention!

Questions?

The study *"Metodiche non invasive per la valutazione della risposta allo stress da trasporto in cavalli sportivi e da carne"* was funded by the Italian Ministry of Health, Rome, Italy (Project RC IZSVe 06/16; B22F17000370001)