

The effects of restrictive housing on horse behaviour

Explores welfare and behavioural issues for horses kept in restrictive housing situations.

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Introduction

Free-ranging horses populate plains and grasslands and cover vast distances on a daily basis roaming these areas as a group. They are adapted to graze continuously throughout the day on a high volume of low-energy feed. Domestic horses have retained these adaptations, but they are commonly housed in systems that restrict these natural behaviours (Werhahn *et al.*, 2011b). Restrictive housing in stables limits social contact with conspecifics (Sondergaard *et al.*, 2011), restricts free exercise (Freire *et al.*, 2009) and results in a change of diet to smaller amounts of energy-dense feed (Huntington, 2004). Restrictive housing is often justified by owners because of perceived risk of fights and injuries (Sondergaard *et al.*, 2011), and the belief that free exercise will result in decreased performance (Werhahn *et al.*, 2011a). This essay explores the deleterious effects that restrictive housing has on horses and aims to challenge the afore-mentioned beliefs.

Discussion

Recent studies have examined the behavioural and welfare impacts of restrictive housing on horses. Werhahn *et al.* (2011a) and Werhahn *et al.* (2011b) examined the behavioural effects of different turnout practices on stabled horses during turnout, stabling and handling, while Sondergaard *et al.* (2011) investigated the motivation for socialisation in horses.

In the study by Werhahn *et al.* (2011a), two groups of two horses were subjected to three treatments lasting two weeks each (six weeks in total). A comparison was made between the three treatments; training for four hours/day with no free exercise, two hours of turnout followed by two hours of training, and training for two hours followed by two hours of turnout. Werhahn *et al.* (2011a) concluded that free exercise resulted in horses being more settled and relaxed while in stalls, demonstrated by the lower frequency of change in behaviour as well as less aggression toward other horses. These observations challenge the common belief that horses are more likely to fight when they have access to free exercise. The notion of the positive influence of turnout is supported by Normando *et al.* (2011), who demonstrated a positive correlation between locomotor stereotypies and restrictive housing. Werhahn *et al.* (2011a) also demonstrated that horses are active during turnout even after training. It may be deduced that, although training may partially fulfil the exercise needs of the horse, there are many other innate behaviours of horses that are not satiated when the horse is deprived of free exercise.

Werhahn *et al.* (2011a) also evaluated the effect of restrictive housing on “willingness” of the horse to perform based on analyses of rider evaluations. Willingness to perform was centred around obliging and quiet behaviour and good concentration in the horses and these attributes were demonstrated most frequently by horses that had access to free exercise. This was most notable in the group that received turnout before training. Willingness to perform was lowest in horses with no turnout. This contradicts the common belief among horse owners that access to free exercise may decrease the horse’s performance under saddle. It is possible that rider evaluations used in this study may have been biased by preconceptions. To improve this study it could have been conducted as a blind trial, with the riders of the horses having no knowledge of the treatments being applied.

The study by Werhahn *et al.* (2011b) involved three groups of two horses passing through three phases, each two weeks in duration. The treatment groups were: group turnout, solitary turnout, and no turnout. It was demonstrated that, while in their stall, horses in the no-turnout group spent significantly less time lying down and more time engaging in activities such as

investigating objects in the stall, eating bedding and drinking. Horses in the turnout treatment group spent significantly shorter periods on these activities and significantly longer lying down. The results for the solitary turnout group were between those for no turnout and group turnout. Free-ranging horses would spend 12-20 hours per day grazing and walk for many kilometres, moving between grazing areas (Myers, 2005). Horses that do not have access to free exercise and grazing may compensate for the lack of energy expenditure by reducing the time spent lying down, and for the lack of grazing by investigating the stall (Werhahn *et al.*, 2011b). The small sample size of this study may compromise its validity.

The study by Sondergaard *et al.* (2011) utilised operant conditioning to train horses to press a panel to gain access to an arena where they had either full contact with a companion horse, head contact with the companion horse, muzzle contact with the companion horse or no companion horse. The degree of social contact did not affect the demand for access to the arena. However, it did affect the behaviour of the test horse while in the arena. The length of time the horse stayed in close proximity to the companion horse, as well as the amount of play behaviour and social grooming, increased with less social restriction. The motivation for social contact versus solitary access to the arena differed significantly. Test horses worked harder for socialisation than for an empty arena. Further supporting this is the study by Lee *et al.* (2011) in which horses preferred to remain in the turnout paddock for longer periods when they were in a group than when they were alone. The demand for socialisation is inelastic and thus it can be inferred that restrictive housing that prevents any form of social contact is likely to result in compromised welfare in horses. The study design in this trial allowed the horses access to limited social contact outside the test environment. It could be argued that this may have affected the results.

Conclusions

This review challenges common beliefs among horse owners regarding the effects of restrictive housing on horses. It can be concluded that the behaviour and welfare of horses is positively influenced by regular turnout and social contact with conspecifics, neither of which is available to horses in restrictive housing situations.

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