Welfare Implications of Diverse Housing and Turnout Practices on Horse Behaviour during Training, Riding and Stabling

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Introduction

Domesticated horses are often stabled to minimise injuries or to conserve their energy during training. Such practices result in stabled horses adapting to a lifestyle that restricts natural social behaviours commonly observed in paddock-roaming horses (Normando *et al*., 2011). Additionally, stabled horses have a greater risk of developing abnormal and repetitive behaviours, referred to as stereotypies, due to limited social contact, restricted space and lack of enrichment. Such vices include box-walking, crib-biting and wood-chewing (Werhahn *et al*., 2012; Normando *et al*., 2011). These behaviours cause muscle strains, tooth wear, colic and jaw pain (Houpt, 2012) and therefore negatively impact on the welfare of the horse. This paper examines recent studies by Buckley *et al*. (2013), Hoffmann *et al*. (2012) and Werhahn *et al*. (2012) and compares the welfare implications of diverse housing systems on horse behaviour.

Discussion

Behavioural problems in horses are detrimental to their physical and mental health and often result in poor training performance (Buckley *et al*., 2013). Turnout ability and housing types play a significant role in a horse's willingness to train, exercise and obey rider commands (Werhahn *et al*., 2012). Buckley *et al*. (2013) examined the types of misbehaviour and incidents that occur in Pony Club horses and identified associated riding risk factors during training. They studied horses (n=84) stemming from 41 families across seven Pony Clubs in rural Australia over a 12-month period. A conventional housing system with individual stable boxes and varied turnout opportunities per horse were used. Daily recordings outlined husbandry management, including nutrition, exercise, turnout and health. Misbehaviour incidents were recorded using descriptive statistics, while suggested associated risk factors were calculated using multivariable logistic regression. Misbehaviour occurred in 59% of horses during training and handling, with 52% of misbehaviour classified as dangerous, posing safety risks to horse and rider. Misbehaviour during riding occurred on 3% of days spent riding. The study found that horses that were fat or spent more time turned out in paddocks with more than 50% grass cover lacked adequate exercise and misbehaved more frequently. This study linked housing, turnout, nutrition and exercise with misbehaviour or abnormal behaviour that negatively impacted on the safety of horses and riders. Limitations in methodology included restricting the study to Pony Club horses only. Increased result reliability and flexibility would have been obtained if a wider population of industry horses had been studied. Additionally, if feed intake and type were monitored per horse, the results could have investigated how large an impact nutrition plays on behaviour.

In comparison, Hoffmann *et al*. (2012) examined the link between an alternative active group-housing system and horse behaviour. The study investigated the claim that the conventional system of individual stable boxes caused physical and musculoskeletal ailments because horses were unable to carry out their natural behaviours. Using eight Icelandic horses, individual body-condition scores (BCS), bodyweight (BW) and measurements were documented. Each horse's behaviour was recorded daily. ALT pedometers calculated movement and rest. The study was divided into two periods. Unlike Buckley's (2013) study, nutrition levels were controlled using automatic concentrate feed stations (CFS) for the second period. Video surveillance monitored the horses' social behaviour during the study to increase result reliability. The authors found that when nutrition levels were controlled using CFS, horse activity levels increased, with BW and BCS remaining constant throughout the study. Observations indicated that horses establish a social hierarchy and synchronisation of behaviour contributing to minimal aggression. Active group housing was found to have fewer welfare implications on horse social behaviour and a lower risk of horses developing the stereotypies and behavioural problems common in conventional housing. Social housing systems reduce stereotypies and promote willingness to move during training (Werhahn, 2012; Hoffmann, 2012). Increasing the study population would have enhanced result reliability. This study had the most

control as results were collected by one team from one specific area and horse breed. In the study by Buckley *et al*. (2013), the recorded daily findings were collected by unskilled volunteers with differing perceptions of “dangerous”. The study concluded that alternative group-housing systems meet husbandry requirements and natural needs thereby more positively influencing horse health and welfare.

The fear of aggressive behaviour and decreased competitive performance has shaped people’s motives not to group horses for housing and turnout (Hoffmann, 2012). Werhahn *et al*. (2012) compared behavioural effects observed with various turnout and housing practices. Six horses were divided into three treatment groups: no turnout, solitary turnout, or group turnout over a two-week period, lasting two hours per day after training. Individual heart rates were recorded to detect stress levels, while video surveillance, a global-positioning system (GPS) and rider questionnaires recorded stable behaviour and training distance. Statistical analysis of results illustrated that when denied turnout, the horses’ heart rates increased, indicating increased stress, agitation, eating, box-walking and investigating objects. Horses turned out in groups rested longer, while horses turned out solitarily showed low levels of restlessness. Both groups were more willing to move during training.

Although limited by the small subject numbers, which impacted on result validity, these results matched the Hoffmann *et al*. (2012) study in that the risk of horses in group-housing systems misbehaving and developing behavioural problems was lower, given their ability to carry out natural social and physical behaviour, therefore positively impacting on welfare standards.

Conclusion

All three studies significantly contributed to improving welfare standards of horse housing and turnout practices. Buckley *et al*. (2013) observed a link between the conventional system and horse behaviour, while Hoffmann *et al*. (2012) and Werhahn *et al*. (2012) substantiated the need for group housing. The studies exemplify how stabling practices significantly impact on equine behaviour and how isolated horses in stables without turnout lack the ability to express natural social behaviour and commonly develop stereotypies during training and stabling. This suggests that conventional stables should enhance visual, tactile and social interaction to reduce behaviour associated with boredom through isolation.

References

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