

Recent discoveries in horse training and welfare

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Introduction

Throughout recent human history horses have been used by humans as a source of food, a mode of transport, a form of recreation and for sporting performance (Evans et al., 2002). Training of the horse is required in many horse-human interactions. Training involves suppression of undesirable natural responses, exploitation and modification of desirable behaviour and teaching of novel behaviour (Visser et al., 2003). Effective and humane training requires an understanding of learning processes, the influence of motivational forces and natural horse behaviour (Waran et al., 2002).

Discussion

Welfare issues related to horse training arise for a number of reasons. Welfare may be compromised due to stress placed upon the horse, because it is required to tolerate innately aversive or threatening stimuli (Waran et al., 2002). The method of training also influences horse welfare. For example, training methods that are based on establishment of dominance over the horse, involve the use of force and coercion (Miller, 2000). Welfare problems can also arise when place unrealistic expectations upon the horse (Mills & Nankervis, 1999).

The large number of young, healthy horses “breaking down” during training, or being slaughtered for behaviour problems highlights the need for improvement in training practices to ensure good horse welfare (Goodwin, 2002). This paper reviews three recent articles that examine different methods of improving the trainability and thus the welfare of the horse.

Due to the range of diverse equestrian activities, horses have to adapt to a variety of circumstances. This has led to the need for selection of horses with characteristics that fit the discipline, trainer and management conditions. Successful matching of the individual horse to these elements has the potential to improve horse welfare (Visser et al., 2003).

The aim of the first study (Visser et al. 2003) was to investigate consistency in learning performance and to study whether learning performance depends on the method of reinforcement applied. To achieve this aim, learning responses and behavioural and physiological variables were measured in 39 young horses as they participated in two learning tests. One test used negative reinforcement and the other used positive reinforcement.

This study concluded that horses show consistency in learning performances within a short time interval in both positive and negative reinforcement learning tests. This suggests the existence of stable individual learning abilities. Therefore, evaluation of individual learning abilities may be a valuable tool for selection of suitable horses for specific activities. The study also found that some horses perform better in response to positive reinforcement, while others perform better following negative reinforcement (Visser et al., 2003). This information could be used to aid design of optimal individual training programs. To be useful, learning tests must be interpretable in terms of practical training situations (Seaman et al., 2002).

Reinforcement of a desired behaviour is used to increase the probability of expression of that behaviour (Mills & Nankervis, 1999). Positive reinforcement facilitates learning by motivating the horse to perform the desired behaviour, without fear decreasing its ability to learn. The use of positive reinforcement in training is likely to enhance horse welfare and produce fewer 'problem' horses. However, in some training situations, positive reinforcement is difficult to administer. For example, primary positive reinforcement is less feasible in equitation as delivery of the reinforcer can interfere with the continuity of the activity (Waran et al., 2002). To overcome this drawback, training can involve the use of secondary reinforcers to bridge the gap between the expression of the correct behavioural response and the desired

consequences (Karrasch & Karrasch, 2000). Secondary reinforcers differ from primary reinforcers in that they are neutral stimuli that do not reduce physiological needs. Secondary reinforcers acquire their reinforcing properties from their association with primary reinforcers through classical conditioning (Houpt, 1998).

The aim of the second study (McCall & Burgin, 2002) was to examine the effectiveness of secondary reinforcers in horse training. This was done by using 48 horses in three behaviour trials to determine if secondary reinforcers could prolong extinction of a learned task; and train a new task. The results from this study could not demonstrate that secondary reinforcements prolonged a learned response; however, they may facilitate learning. In these trials secondary reinforcement was used successfully to teach horses new tasks. However, it was found that secondary reinforcement worked best when it was continually paired with primary reinforcement. The results of this study indicate that while secondary reinforcers are effective in horse training, it is important to consider the conditioning of the secondary reinforcer and the schedule of reinforcement to improve training efficiency (McCall & Burgin, 2002).

Training is influenced by a number of factors, one of which is the physical environment. Inadequate environmental conditions may compromise behavioural development, and thus affect the welfare of horses and the efficiency of training. Horses housed in stalls are deprived of opportunities for social interaction and performance of natural behaviors (Houpt, 1998).

The third study (Rivera et al., 2002) examined the relationship between housing conditions and behavioural and physiological responses of horses to initial training. The horses in this study were allocated into experimental groups based on their housing conditions (pastured versus stalled) and exposure to a standardised training procedure. The results of this study suggest that pasture-kept horses adapt more easily to training than stall horses, and show a lower frequency of unwanted behaviour (Rivera et al., 2002). The daily challenges that the pastured horses experienced may have helped them to more easily adapt to the training environment. The findings of this study indicate that horse owners should aim to provide horses with a more enriched environment that increases the opportunities for expression of natural behaviour (Rivera et al., 2002).

Conclusion

Research into horse training, can serve to increase the awareness of the principles of learning in horses and of training methods that enhance learning, and thus, could improve the effectiveness of training and welfare of the horse. The degree to which discoveries from behavioural studies can influence the welfare of horses in training relates to the ease with which the findings can be interpreted and applied to practical horse training situations. Horse training can negatively impact on welfare, therefore, further research is needed to investigate and develop alternative training methods that do not harm horses and that are easy to apply in practice.

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