

Report for the New Zealand Equine Research Foundation

Horse Welfare – indicators of positive emotion in horses

Rachael Stratton BVSc, Lecturer in Animal Behaviour and Welfare, IVABS, Massey University
Palmerston North

With assistance from NZERF, I was fortunate to attend and present my research at two concurrent international conferences last year. The 6th International Equitation Science Conference (ISES) was held over 3 days in Uppsala, Sweden. The president of ISES, Dr Andrew McLean, will be known to many equestrians as a leader in horse behaviour and training using scientific-evidence based, learning theory principles, but you may not know of his research accomplishments and his elephant training programmes. ‘Horse welfare and human safety: the importance of learning, training and education’ was the main conference theme. Training and education of horses and riders, from a scientific as well as from a practical perspective were discussed during the conference hosted by the Faculty of Veterinary Medicine and Animal Science at the Swedish University of Agricultural Sciences (SLU) and the Swedish National Equestrian Centre Strömsholm. Nearly 200 equine scientists, veterinarians, trainers, teachers and students from 16 European countries and the US, Canada, Australia and New Zealand participated. The central theme of the 44th Congress of the International Society for Applied Ethology (ISAE), was ‘coping in large groups’ and was held over 4 days with parallel streams of presentations and workshops. ISAE is the leading association for people interested in the behaviour and welfare of confined or domesticated animals, including companion, farm and zoo animal species.

My research on emotions in animals, using horses as a model, aims to assist our understanding and measurement of welfare. It is widely accepted that mammals are capable of feeling negative emotions such as fear, pain, and frustration as well as positive emotional experiences such as pleasure and happiness. Many equestrians report that they can tell when their horse is happy. Traditionally, research on animal welfare has tended to focus on the identification and reduction of negative emotional states. More recently, good welfare is taken to include the promotion of positive experiences and emotions such as pleasure. Research in other species suggests that there may also be health and productivity benefits from positive emotional states. The challenge lies in objectively identifying indicators of positive emotion to measure welfare and to identify what horses enjoy so that optimal welfare can be achieved.

Unlike humans that can engage in self-report studies, research of emotions in animals relies on behavioural, physiological, neuroendocrine and perhaps cognitive indicators of the subjective response. In the first of a series of investigations at Massey University in Palmerston North, the responses to control, presumed positive, and presumed negative stimuli were recorded in 13 horses. Horses exposed to the positive stimulus experienced a decreased heart rate and tended to have less hindleg movement during treatment. Horses exposed to the negative stimulus showed an increase in heart rate and respiratory rate and tended to have more hindleg movement during treatment. Paradoxical results were found with the clicker stimulus.

Horse’s behaviour can be difficult to understand at the best of times – anyone who handles or rides them will attest to this! Interpretation of changes in relation to the subjective component of

emotion is certainly challenging. We are undertaking further work that incorporates preference testing and investigates facial expression as well as movement behaviour and physiological variables to better characterise horse emotions.

Dissemination of knowledge and its practical applications is key to useful research. The ISES conferences blend scientists with practitioners in a unique way to achieve this. It was the second time that I have attended an ISES conference, the first was in Sydney in 2009. I can thoroughly recommend it to all equestrians that have a desire to approach their handling/riding/training of horses in a humane, scientific-evidence based way. Further details can be found at <http://www.equitation-science.com/aboutises.html>.



Photo: Rachael Stratton and Churchill one of the research subjects.