Looking on the brighter side of life – Characterising the expression of positive emotion in Thoroughbred horses

Hayley Randle, Charles Sturt University, Australia
(Major Research Grant: AUD 325,693)

This project will identify and validate behavioural indicators of positive emotions in horses that can be used in industry to improve the welfare and quality of life of Thoroughbred racehorses via an emotional Quality of Life (EQoL) assessment tool. Horse welfare fundamentally depends on what horse's experience and how having to cope with the challenges and opportunities in their environment affects them. Research in other species has shown that behavioural responses to challenges and opportunities are driven by emotions, that is, how the animal feels. Despite the wide availability of industry advice about how to use horse behaviour to assess specific emotional states, there is relatively little scientific evidence to substantiate this advice which means that there is wide variation in how common behavioural responses of horses are interpreted in industry. Very little is known about behavioural indicators of positive emotions in horses and the absence of signs of negative emotions or welfare does not mean the animal is in a positive emotional or welfare state. Therefore, there is a need to identify reliable indicators of positive emotions and emotional state in horses. Being able to reliably identify when a horse is in a positive emotional state will help those responsible for racehorses to improve quality of life by maximising positive welfare across all phases of the racehorse's life.

This project will firstly collaborate with industry to identify the indicators currently used to identify equine emotional states. Then a series of studies adapted from cognitive neuroscience and psychology will identify behavioural indicators associated with positive emotions in Thoroughbred horses to develop the EQoL assessment tool. Horses will experience beneficial outcomes, such as the receipt of food rewards, and the behaviours and physiology associated with those outcomes will be used to develop the EQoL. In particular horses will learn to make predictions about the likelihood of receiving tasty food rewards or associating a specific visual symbol or location with either getting or not getting a reward. The receipt of rewards are associated with behavioural and physiological responses that indicate positive emotions such as happiness in other species. In our project, the behaviour and basic physiological responses of the horses during these tests, as they successfully or unsuccessfully predict their chances of getting a reward will be closely analysed to identify the specific behaviours that occur when they receive rewards compared to when they do not. The behaviours associated with the beneficial outcomes will form the basis of the development of the EQoL indicators that will be tested in industry settings across multiple countries to ensure they can be successfully applied to identify positive emotional states in racehorses. Finally, the findings of these studies, and in particular, the descriptors of the behavioural indicators will be adapted for sharing with the horse industry to provide a powerful and evidence-based EQoL tool for the detection of positive emotions in horses. With this information, industry participants will be able to maximise positive emotions and positive welfare in Thoroughbred racehorses.