

# Case Scenario Template

**Case author(s):** Janice Lloyd and John Cavaliere

**Scenario Theme:** Animals used for work, sport, recreation or display

**Scenario Topic:** Stereotypy in horses

**Name of client:** Michelle

**Age, sex, species/breed of patient(s):** 3 year-old, male (gelding), Thoroughbred horse

**Patient's problem(s):** Windsucking (aerophagia)

**Case ILO objectives:** A1.1; A1.4; A1.5; A1.7; A1.9; B1.1; B1.2; B1.3; B1.4; B1.6; B1.8; C1.1; C1.2; C1.3; C1.10; C1.18; C1.19

**AW / Ethical challenges:** Husbandry; Ownership; QoL

# Background Information

Michelle runs a thoroughbred horse training business 4 km from Randwick race course in Sydney. Each morning she takes 6 horses from her stables to the track at Randwick for training as she does not have facilities to exercise her horses where they are stabled. The horses are then returned to her stables after completion of their training each day.

With the diagnosis of Equine influenza at Randwick in August 2007 a complete ban was placed on the transport of horses within the state of NSW. The restrictions meant that the horses were confined to their stables unable to travel to Randwick for exercise, or be turned out to graze. During the second week of their forced confinement to the stables, Michelle noticed that one of the horses, a 3 year-old gelding, developed the stereotypical behaviour of 'windsucking'.

# Background Information

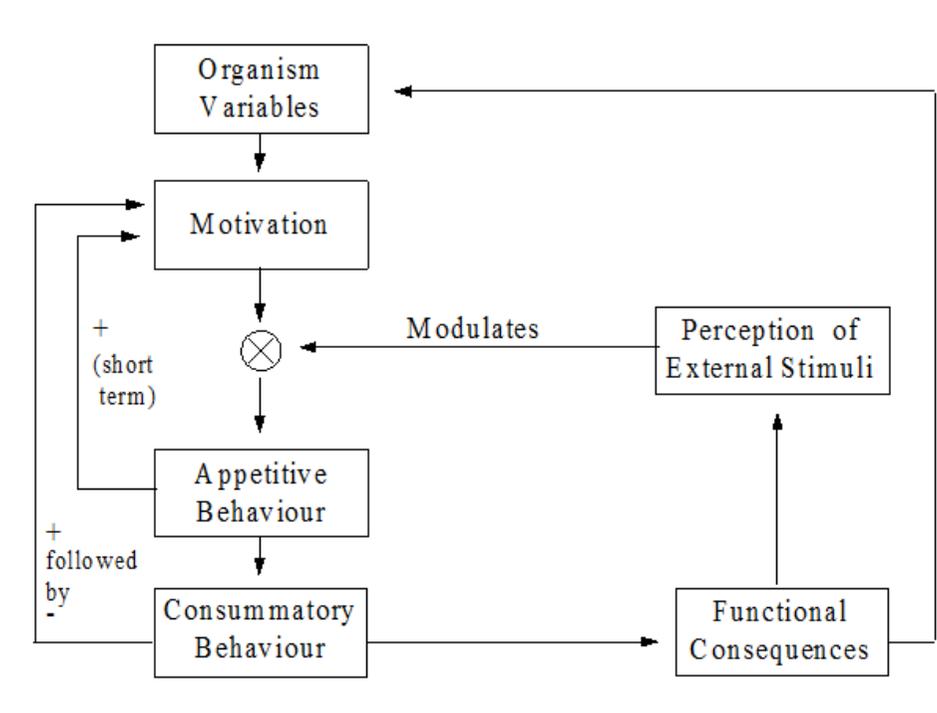
Stereotypies are behaviours that consist of morphological identical movements that are regularly repeated, have no obvious function, or are unusual in the context of their performance.

'Windsucking' or 'crib biting' describes the technique that horses use when they anchor their front teeth on a rail or post, arch their necks and gulp air. There is usually a characteristic 'grunting' sound as the air is swallowed.

Evidence suggests that horses experience pleasure from windsucking, possibly due to endorphin release. It is also possible that an expanded stomach makes the horse feel full and satiated. However, windsucking can lead to excessive wear on the teeth. In extreme cases the top incisors may be worn away making it difficult for the horse to graze. Swallowing air may also lead to digestive problems and poor condition due to a reduction in appetite.

# Background Information

The motivational basis for the development and the function of stereotypes is not well understood. However, the following model has been proposed as a General Motivation Model of Control of Behaviour:



# Instructions to students

## **Task:**

Your task is to examine the general motivation model of control of behaviour presented above and describe the possible causation and development of the stereotypy 'wind sucking' in horses.

What advantages could this behavioural development potentially provide for this horse?

What does the observation of a stereotypical behaviour indicate about the welfare status of an animal?



<http://greenbarnfranklin.com/wp-content/uploads/2011/02/cribbing-picture2.jpg>

## **Assessment:**

You will receive a mark out of **xx** for your answer.

# Model Answer

Stereotypical behaviour is often seen in animals that are confined and/or have food restrictions. From the General Motivation Model of Control of Behaviour, it can be postulated that:

The stereotypy may have developed due to the combined effect of a strongly motivated behaviour (e.g. hunger leading to the appetitive behaviour of foraging) and an environment that does not allow sufficient expression of the consummatory behaviour (feeding) to switch off motivation.

Activities such as foraging are positively reinforcing, hence, insufficient negative feedback from the consummatory behaviour and its functional components (food), may cause these appetitive sequences to persist and develop into this stereotypy.

Note: As the stimulus is paired/followed by a reward (food), classical and operant conditioning may be shaping normal behaviours into repetitive stereotypy.

The presence of stereotypies is evidential of a poor physical and social environment and/or inadequate nutrition. In the wild, horses would forage for around 16-18 hours a day. Lack of foraging means that the stomach is not full. This, in combination with being fed a concentrated diet, may lead to an increase in stomach acidity which can contribute to the formation of gastric ulcers. Wind sucking causes an increase in

the production of saliva, which is alkaline and may help reduce acidity in the stomach. This idea is supported by the fact that antacids can reduce wind-sucking behaviour in horses.

Although the motivational basis for the development of stereotypies or their function is not well understood, they might help an animal cope, at least in the short-term, with a lack of resources, frustration, stress and lack of control and stimulation. Scientists have proposed that some forms of stereotypies reduce responses to aversion by affecting the animal's perception of the situation. Irrespective of the function of stereotypies, the existence of a stereotypy is indicative of, at the least, a past problem for the animal in coping with its conditions.

Stereotypies can result in physical damage or illness to an animal. In this case, persistent wind-sucking can wear the teeth making it difficult to graze, and can lead to gastrointestinal problems such as gastritis and colic that have immediate implications for the horse's welfare.