Extending the ‘Five Domains’ model for animal welfare assessment to incorporate positive welfare states

DJ Mellor* and NJ Beausoleil

Animal Welfare Science and Bioethics Centre, Institute of Veterinary, Animal and Biomedical Sciences, Massey University PN452, Palmerston North 4442, New Zealand
* Contact for correspondence and requests for reprints: D.J.Mellor@massey.ac.nz

Abstract

Contemporary animal welfare thinking is increasingly emphasising the promotion of positive states. There is a need for existing assessment frameworks to accommodate this shift in emphasis. This paper describes extensions to the Five Domains model, originally devised to assess welfare compromise, that facilitate consideration of positive experiences that may enhance welfare. As originally configured, the model provided a systematic method for identifying compromise in four physical/functional domains (nutrition, environment, health, behaviour) and in one mental domain that reflects the animal’s overall welfare state understood in terms of its affective experiences. The specific modifications described here now facilitate additional identification in each domain of experiences animals have which may be accompanied by positive affects that would enhance welfare. It is explained why the grading scale and indices for evaluating welfare compromise necessarily differ from those for assessing welfare enhancement. Also, it is shown that the compromise and enhancement grades can be combined to provide a single informative symbol, the scaled use of which covers the range from severe welfare compromise and no enhancement to no compromise and high-level enhancement. Adapted thus, the Five Domains model facilitates systematic and structured assessment of positive as well as negative welfare-related affects, the circumstances that give rise to them and potential interactions between both types of affect, all of which extend the utility of the model. Moreover, clarification of the extended conceptual framework of the model itself contributes to the growing contextual shift in animal welfare science towards the promotion of positive states whilst continuing to minimise negative states.

Keywords: animal welfare, assessment framework, Five Domains model, grading system, positive welfare states, welfare enhancement

Introduction

In contrast to an earlier almost exclusive focus on correcting negative welfare states, contemporary animal welfare science thinking is increasingly emphasising the promotion of positive states (Fraser 2008), a trend that has gained considerable momentum during the last 15 years (Fraser & Duncan 1998; Yeates & Main 2008; Broom 2010). Thus, conceptual frameworks originally developed to identify and manage mainly negative welfare states have needed to be modified or extended to accommodate the additional requirement to recognise and promote positive states (Farm Animal Welfare Council 2009; Webster 2011; Edgar et al 2013).

The Five Domains model was originally developed to assess welfare compromise in sentient animals used in research, teaching and testing (RTT) (Mellor & Reid 1994). Indeed, in 1997 the model was adopted as a mandatory part of the New Zealand regulatory approval system for all such RTT manipulations and, with minor modifications (Williams et al 2006), has been used ever since. Subsequently, its non-regulatory applications were broadened to include welfare assessment, for example, in farm livestock, companion animals, captive or free-living wildlife, and animals designated as pests (Mellor et al 2009; Beausoleil et al 2012; Portas 2013). In common with other approaches, the predominant emphasis was on negative welfare states. However, the increasing drive to include positive states in welfare assessments highlighted the need for the Five Domains model to be adapted to accommodate consideration of such states which, until now, had been given only limited attention using the model (Mellor et al 2009; Green & Mellor 2011). Accordingly, the major aim of the present review is to address this.

The paper begins with an outline of the key features of the model and its use to assess animal welfare compromise, and supports this with a brief explanation of the genesis of major experiences that give rise to negative welfare states. The paper then details specific modifications to the model that facilitate its use in identifying and evaluating experiences animals may have that contribute to positive welfare states. The grading of welfare compromise and enhancement is then considered, and the necessarily different frameworks for doing so are explained. Finally, the rationale underlying a scale that combines the grading of welfare compromise and enhancement is discussed.