

Comparison of Qualitative Behaviour Analysis by laypersons with observed behaviour in captive white-faced saki monkeys (*Pithecia pithecia*) and ring-tailed lemurs (*Lemur catta*)



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INTRODUCTION

This study explored the application of Qualitative Behavioural Assessment (QBA) to evaluate the welfare of small primates in zoos, using ring-tailed lemurs and saki monkeys as models. In many captive contexts, traditional welfare assessments often focus on care “inputs” such as housing and nutrition or solely physiological “outputs” such as weights and health outcomes. However, much theoretical literature has emphasised the need to consider individual psychological experiences as part of a ‘whole animal’ approach to assessment (Rose and Riley, 2019; Wemelsfelder et al., 2001). QBA offers a holistic approach to the assessment of the mental state of animals by quantifying expressive behaviours, providing insights into emotional states that are often overlooked by conventional methods. This study aimed to compare QBA results from participants with varying familiarity with primate behaviour to quantitative assessments by professionals, with the aim of examining whether there are distinct psychological and behavioural profiles that are consistently recognisable by laypersons.

METHODOLOGY

The present study was conducted at Capel Manor College, a land-based college in Enfield, London, United Kingdom. Two saki monkeys (1.1) and three ring-tailed lemurs (2.1) were filmed (n=5) and observed to collect data for QBA and quantitative behavioural assessment. The collected video footage was edited to create n=15 video clips for each species, totalling at n=30.

A total of n=18 participants responded to the ring-tailed lemur survey and a total of n=18 participants responded to the saki monkey survey. Each of the 15 videos of the species in question would be presented to participants together with QBA descriptors (e.g., happy, sad, excited). Participants scored the animal in the video against each descriptor using a Visual Analogue Scale (VAS) ranging from 1 (the animal is not at all, e.g., excited) to 10 (the animal is very intensely, e.g., excited). Alongside the QBA sessions, quantitative data were collected for the same 30 video clips presented to survey participants.

RESULTS

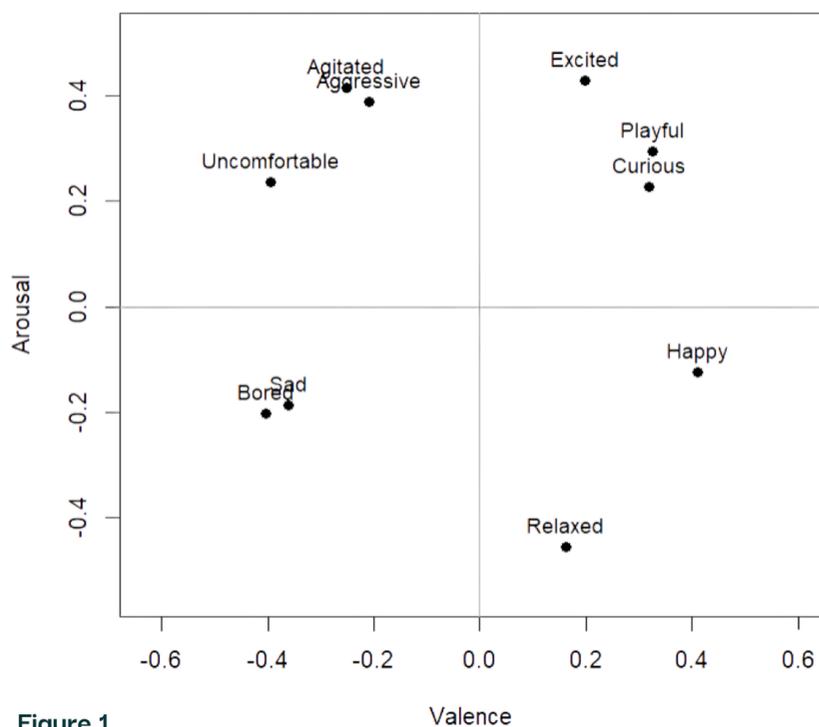


Figure 1. Principal Component Analysis of QBA term loadings.

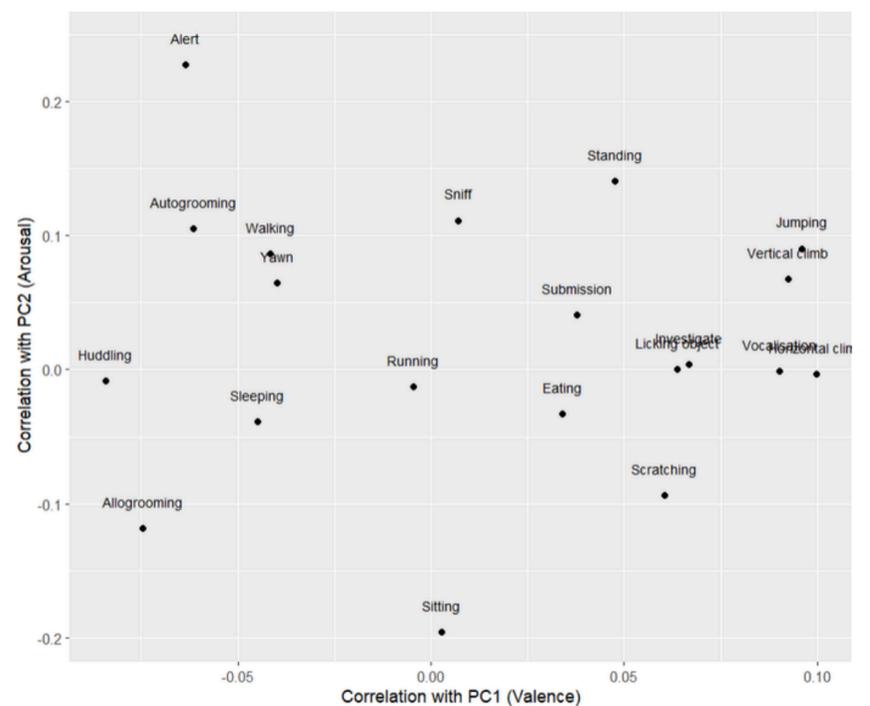


Figure 2. Spearman's Rank correlations of behaviours and QBA components.

CONCLUSION

The findings demonstrate that observer experience does not influence the capacity of humans to identify qualitative emotional dimensions in primates, with neither Valence (PC1) nor Arousal (PC2) showing any detectable linear or nonlinear relationship with experience level. Correlations between QBA components and quantitative behaviours were uniformly weak, indicating that these qualitative assessments are not driven by specific discrete behaviours but instead reflect broader expressive styles that observers perceive holistically. Together, these results contribute to a growing body of evidence that humans can detect affective qualities in non-human primates and that human intuition can be a valuable tool in animal welfare assessment.

Rose, P., & Riley, L., 2019. The use of Qualitative Behavioural Assessment to zoo welfare measurement and animal husbandry change. *Journal of Zoo and Aquarium Research*, 7(4), pp.150-161.

Wemelsfelder, F., Hunter, T.E., Mendl, M.T. and Lawrence, A.B., 2001. Assessing the ‘whole animal’: a free choice profiling approach. *Animal Behaviour*, 62(2), pp.209-220.

