Tickling Rats Lead to Happier Animals?

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Introduction

Welfare is the top priority of all technicians who care for animals at the Centre for Health and Medical Research. It is widely accepted (1) that happy animals lead to improved research outcomes and ultimately better patient care, so we are always looking for new techniques, equipment and skills that will improve the lives of the animals we care for.

Canberra is the first state or territory in Australia to recognise animals as sentient beings in our animal welfare legislation (2). This means that when caring for animals, we are not only concerned for their ‘physical states’ but must take a more wholistic approach to their care that considers their emotional wellbeing.

Rat tickling (3) is a technique used by animal technicians to mimic the play-fighting behaviour that juvenile rats engage in. By participating in this behaviour with our rats, we aim to lessen the impact of handling and increase positive associations with human interaction.

Methods

Rat tickling involves three distinct actions: dorsal contact, flipping and pinning. These actions are intended to replicate the play fighting behaviour of juvenile rats.

Dorsal Contact—light, quick touches to the back of the rat's neck. Avoid the tail and haunches of the rat as these areas are where aggression from other rats is directed.

Flipping—gently restrain the rat around their front legs and lift them while rotating your wrist to flip the rat onto their backs. This is the most difficult part of rat tickling but the most beneficial is it closely mimics the dorsal recumbency seen when rats wrestle.

Pinning—while applying a firm constant contact to keep the rat on their back, tickle the rat between their front legs and on their chest.

Results

Rat behaviour was monitored before, during and after tickling sessions. Three main responses to tickling were identified, these were classified and scored daily in our experimental group.

Positive, scaled 1 to 3: behaviours including approaching the technician’s hand, sniffing, actively participating in play and continuing to play with co-housed mates.

Neutral, scaled 0: minimal interest, not participating or reciprocating in play without expressing negative behaviours.

Negative, scaled -1 to -3: freezing, avoiding touch, stress vocalizations.

Four groups of rats were allocated to each of two treatments. The groups consisted of a group of male rats and female rats that were tickled every day, as well as a control group that was not tickled and was only handled when necessary to clean their housing and perform health checks. We had a relatively small experimental group, but our findings matched those of experiments conducted with larger groups of rats.

Discussion

From recording and tracking positive, neutral, and negative reactions to tickling our technicians were able to draw some conclusions about the benefits of this technique. We found that in groups of male and female rats tickled every day:

> tickling increases positive affect
> improves handling,
> reduces fear responses
> can act as social enrichment.

The results show that rats tickled daily have on average better responses to handling than the rats in the control group that were only handled when their housing was changed. The rats in the experimental group also ended the tickling period with more positive reactions to handling than the control group. Our data showed that one rat from the tickled group did not respond well to handling (#2), whereas one rat from the control group had strong positive responses to handling (#4), indicating to us that rats, as with all species (including humans), have different personalities that need to be taken into account. Tickling is also fun for the technicians! Improving animal welfare using current best practice techniques, equipment and skills is not only beneficial to the animals we care for but also to the technicians who work to enrich their lives. Content, unstressed animals that live enriched lives are better able to contribute to high quality research. Identifying and implementing new ways of improving animal welfare, as well as improving data quality and ultimately patient outcomes while promoting these methods in the scientific community is therefore a key part of the work of animal technicians.

References


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