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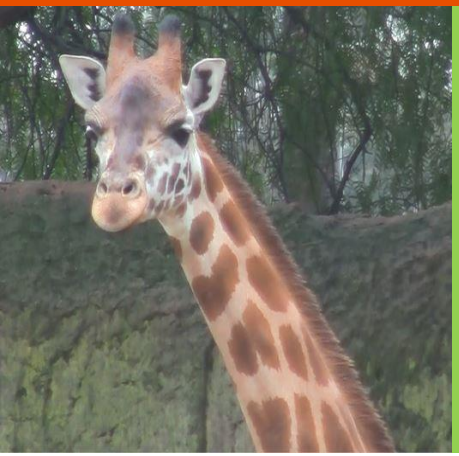


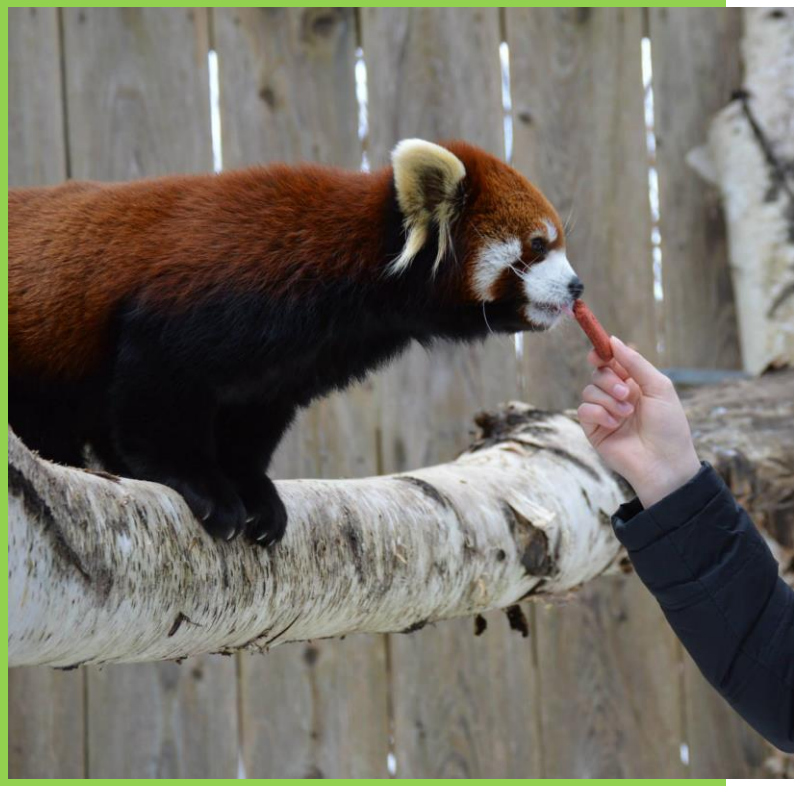
Effects of interactive visitor encounters on the behaviour and welfare of animals commonly housed in Australian zoos

Lydia Acaralp-Rehnberg
PhD candidate
Supervisors: Dr Ian Bland, Prof Grahame Coleman, Dr Michael Magrath, Dr Vicky Melfi

ANIMAL WELFARE SCIENCE CENTRE
State Government Victoria Department of Economic Development, Jobs, Transport & Resources
THE UNIVERSITY OF MELBOURNE FACULTY OF VETERINARY & AGRICULTURAL SCIENCES
THE OHIO STATE UNIVERSITY

Background

- The modern zoo – an interactive experience
- Live animal encounters now offered at many institutions



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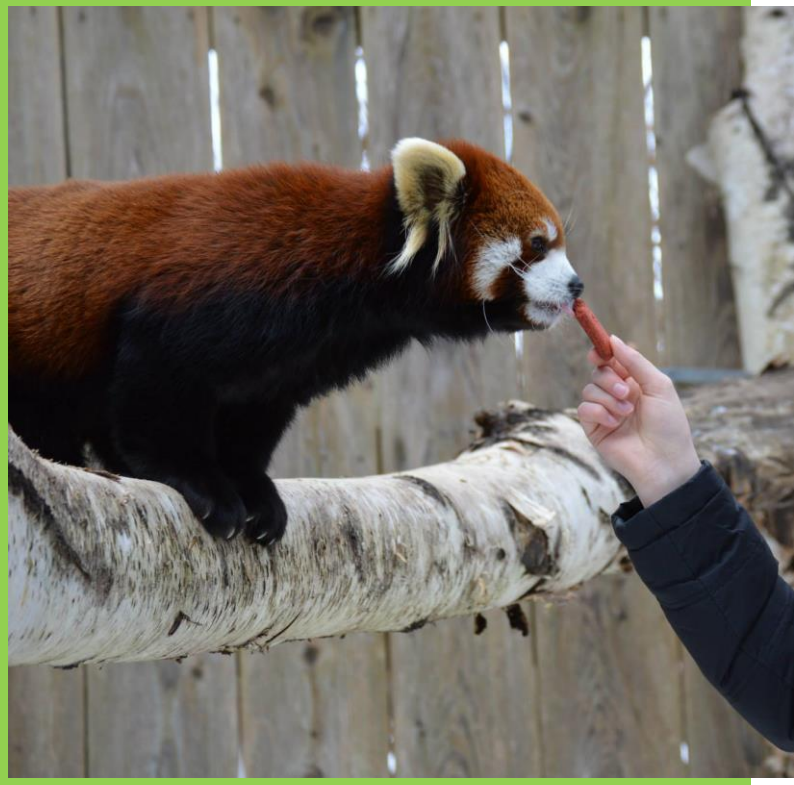
❖ The modern zoo – an interactive experience

- Live animal encounters now offered at many institutions
- Live animal encounters may improve the learning experience, create an emotional connection between people and wildlife and contribute financially to wildlife conservation



Background

❖ The modern zoo – an interactive experience

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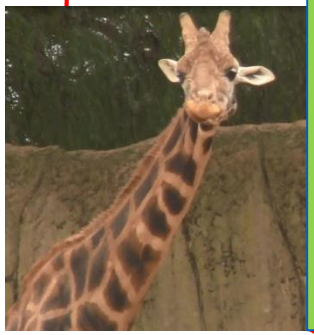
- Live animal encounters may improve the learning experience, create an emotional connection between people and wildlife and contribute financially to wildlife conservation

❖ Welfare of program animals – a new area of research

Research aim

To determine the overall impact on behaviour, physiology and short-term welfare of interactive encounters in certain species commonly involved in encounter programs.

Serval

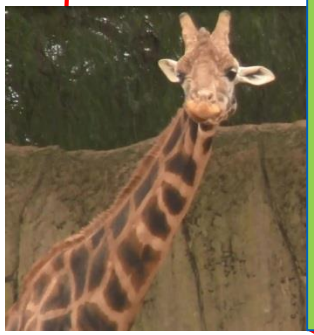


3 species
3 independent studies
1 research question-approach

Giraffe

Reptiles

Serval - finished



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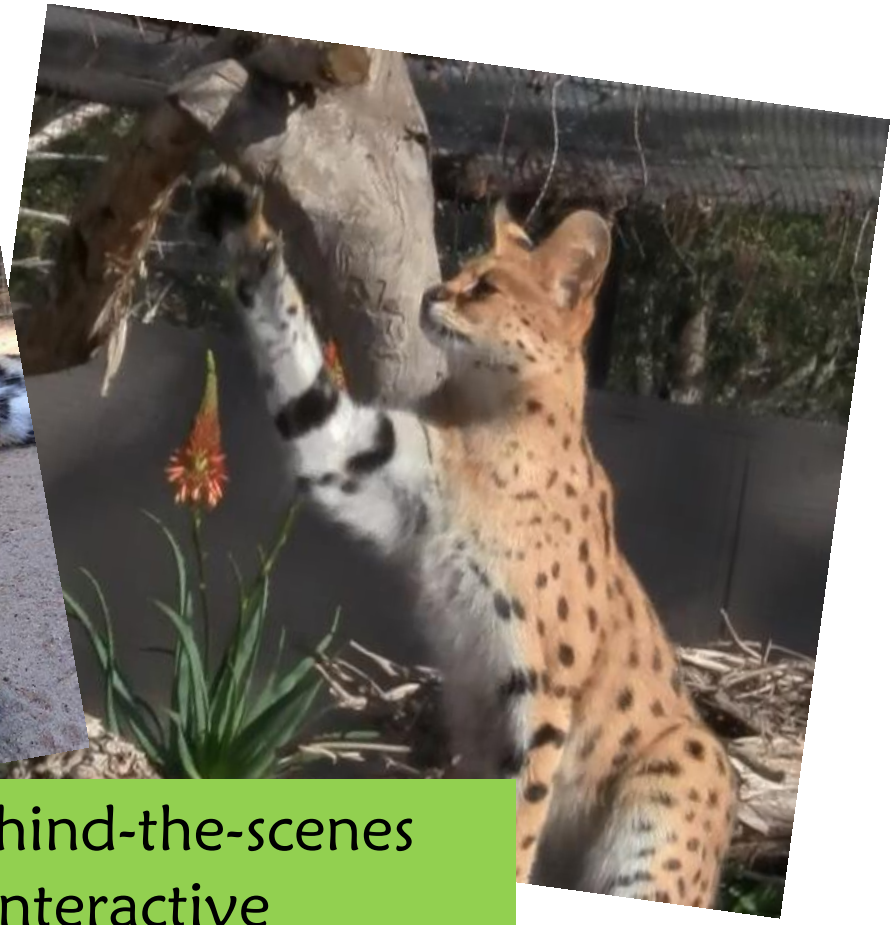

‘The effect of behind-the-scenes encounters and interactive presentations on the behaviour and welfare of captive servals’

Image credit:
Suzanne Szabo

Study animals

Serval

Leptailurus serval

Image credit: Suzanne Szabo

Serval presentations and behind-the-scenes

- Presentation: Takes place once daily at a designated presentation area.
  Serval performs a routine training session together with keeper.
  High visitor numbers – low visitor/animal proximity and interaction. 10 min duration.

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- Behind-the-scenes (BTS):
  Takes place 4 days/week inside serval enclosure. Low visitor numbers (max. 6 participants) – high visitor/animal proximity and interaction (patting and feeding).
  30 min duration.

Treatments

Each treatment was imposed for one week, and repeated three times in a randomised order over a period of 12 weeks. The cats alternated between treatments.

Treatment 1 – Presentations
Treatment 2 – Behind-the-scenes

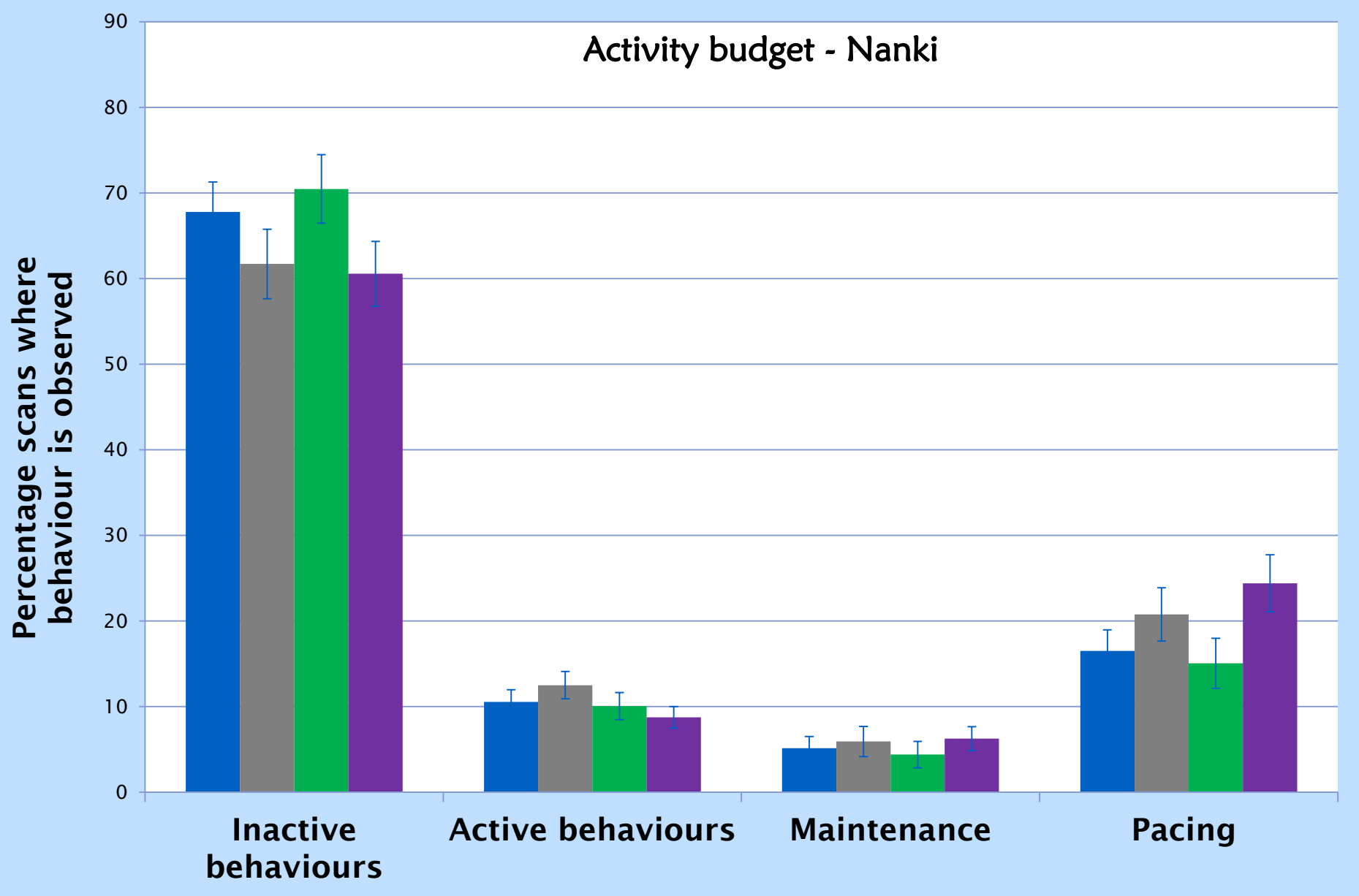
Treatment 3 – Presentations & BTS
Treatment 4 – No visitor interaction

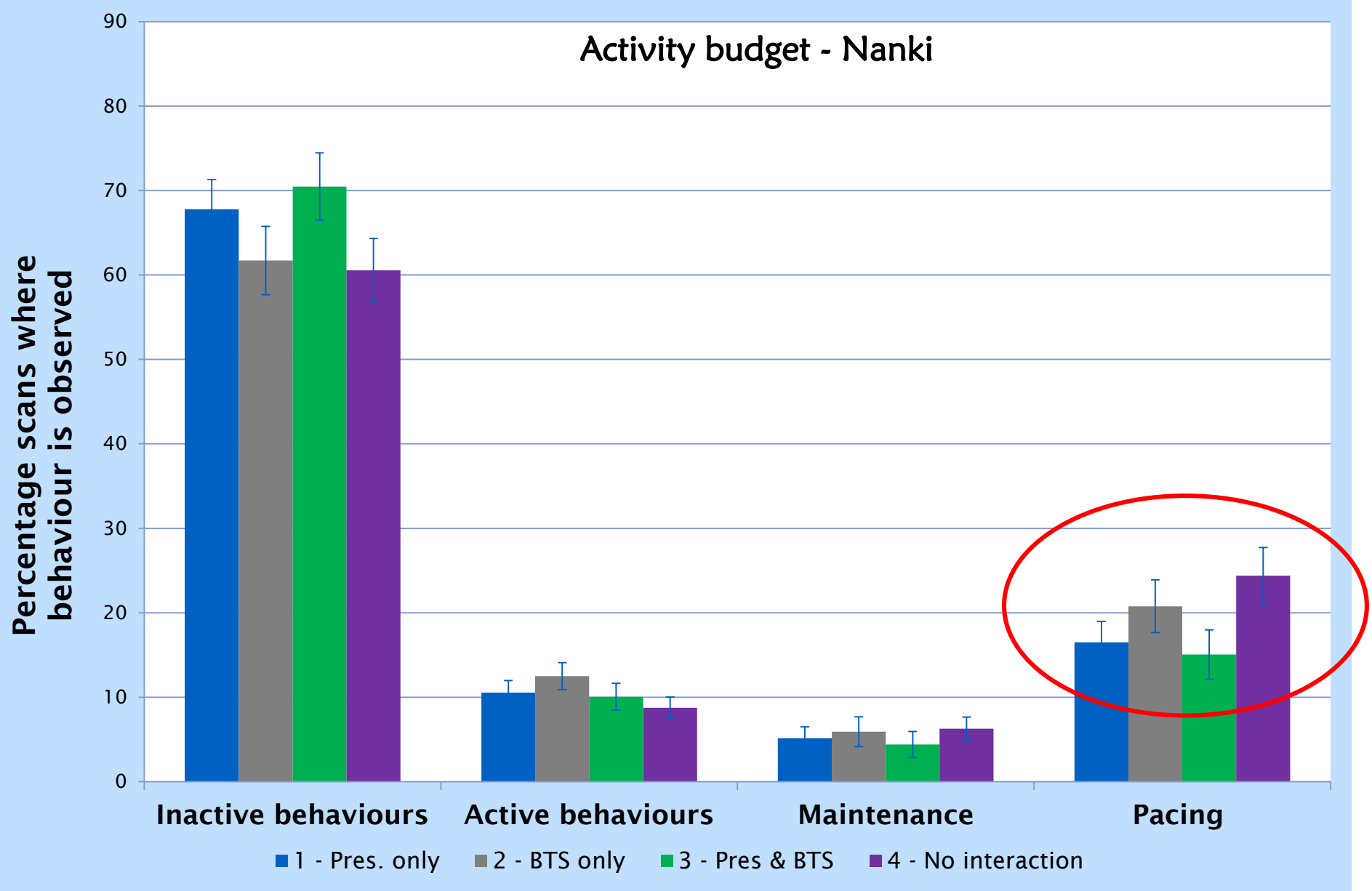
Image credit: Suzanne Szabo

Behavioural observations

- Behaviour recorded with CCTV cameras for 8x15 or 30 min recording sessions per observation day (3 last treatment days of each week). Morning and afternoon, pre- and post presentation and BTS, during pres. and BTS (non-participating cat).

- Activity budget: Inactive and active behaviours, maintenance behaviours, pacing. Scan sampling every 60 s.


Activity budget - Nanki
Percentage scans where behaviour is observed
90
80
70
60
50
40
30
20
10
0
Inactive behaviours
Active behaviours
Maintenance
Pacing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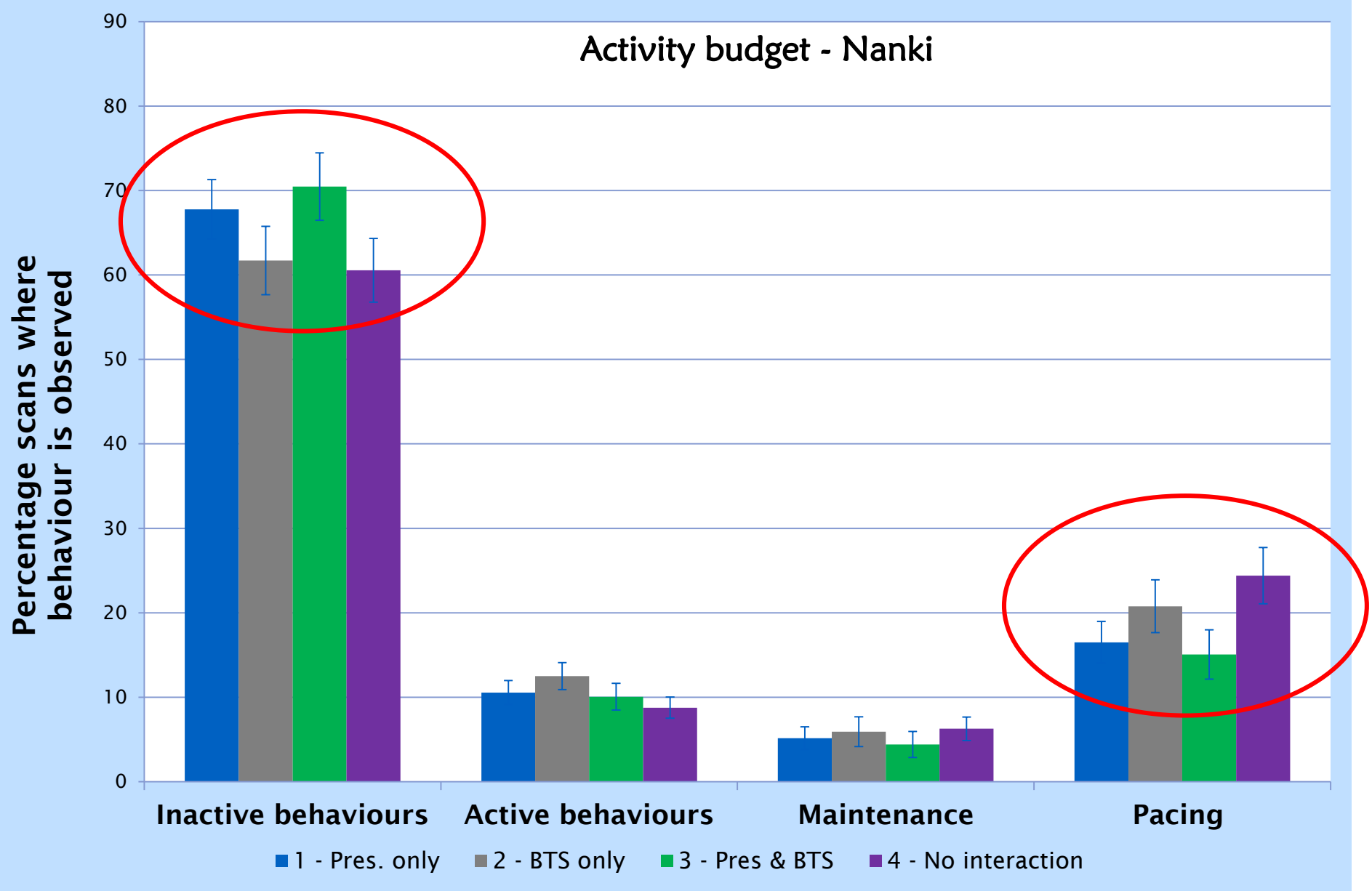
Maintenance
Pacing
1 - Pres. only
2 - BTS only
3 - Pres & BTS
4 - No interaction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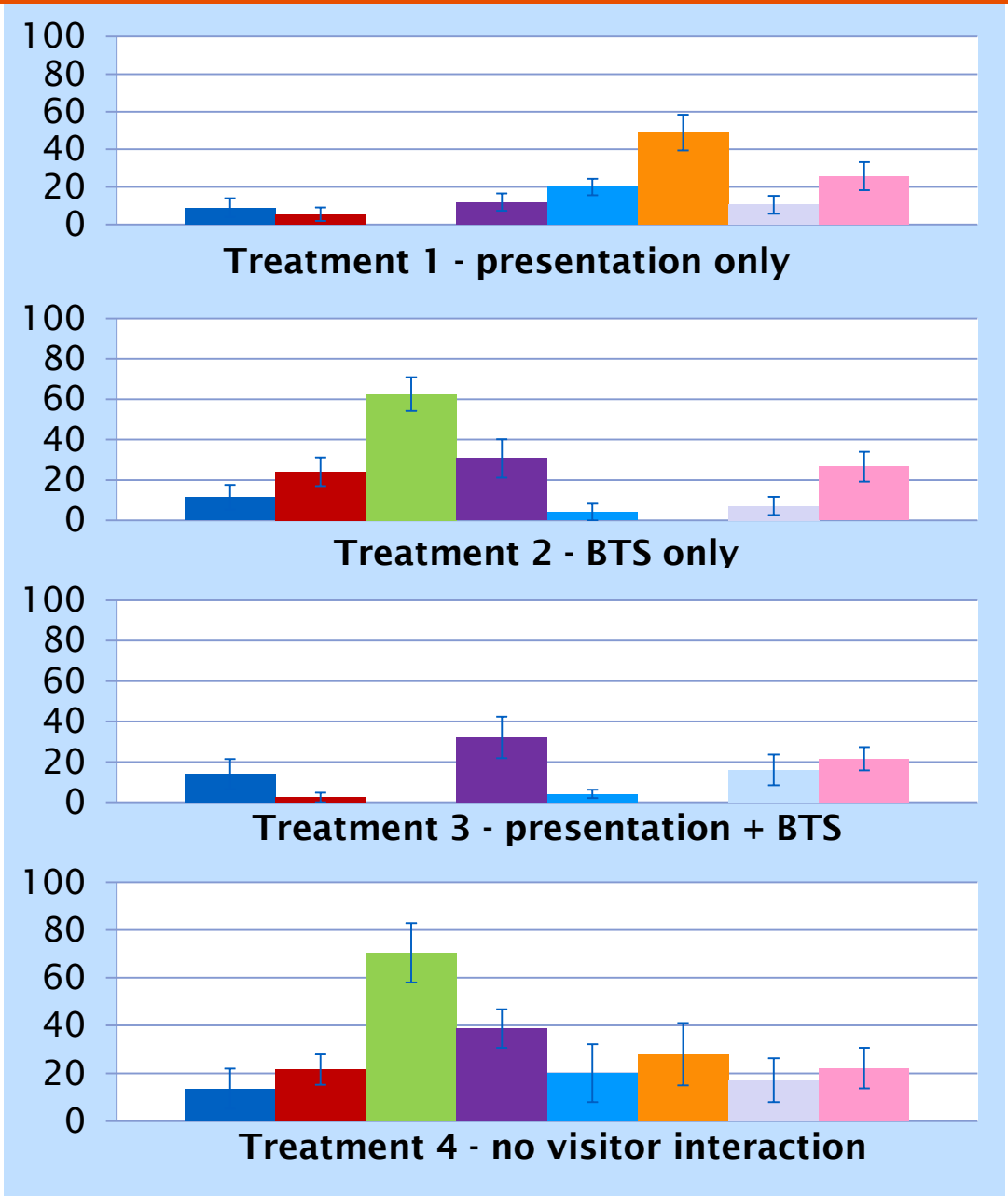
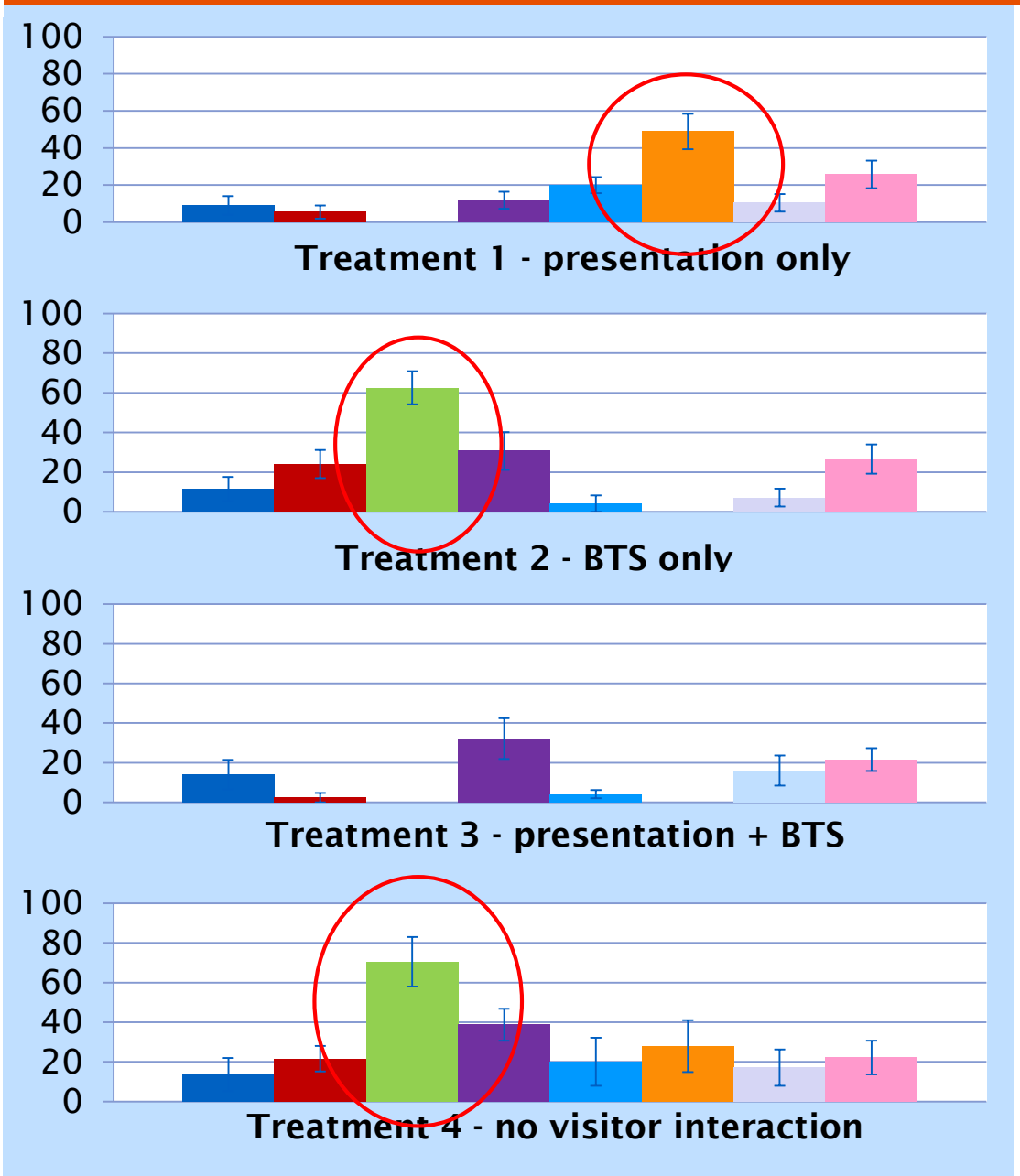
% scans where pacing is observed (mean)



% scans where pacing is observed (mean)



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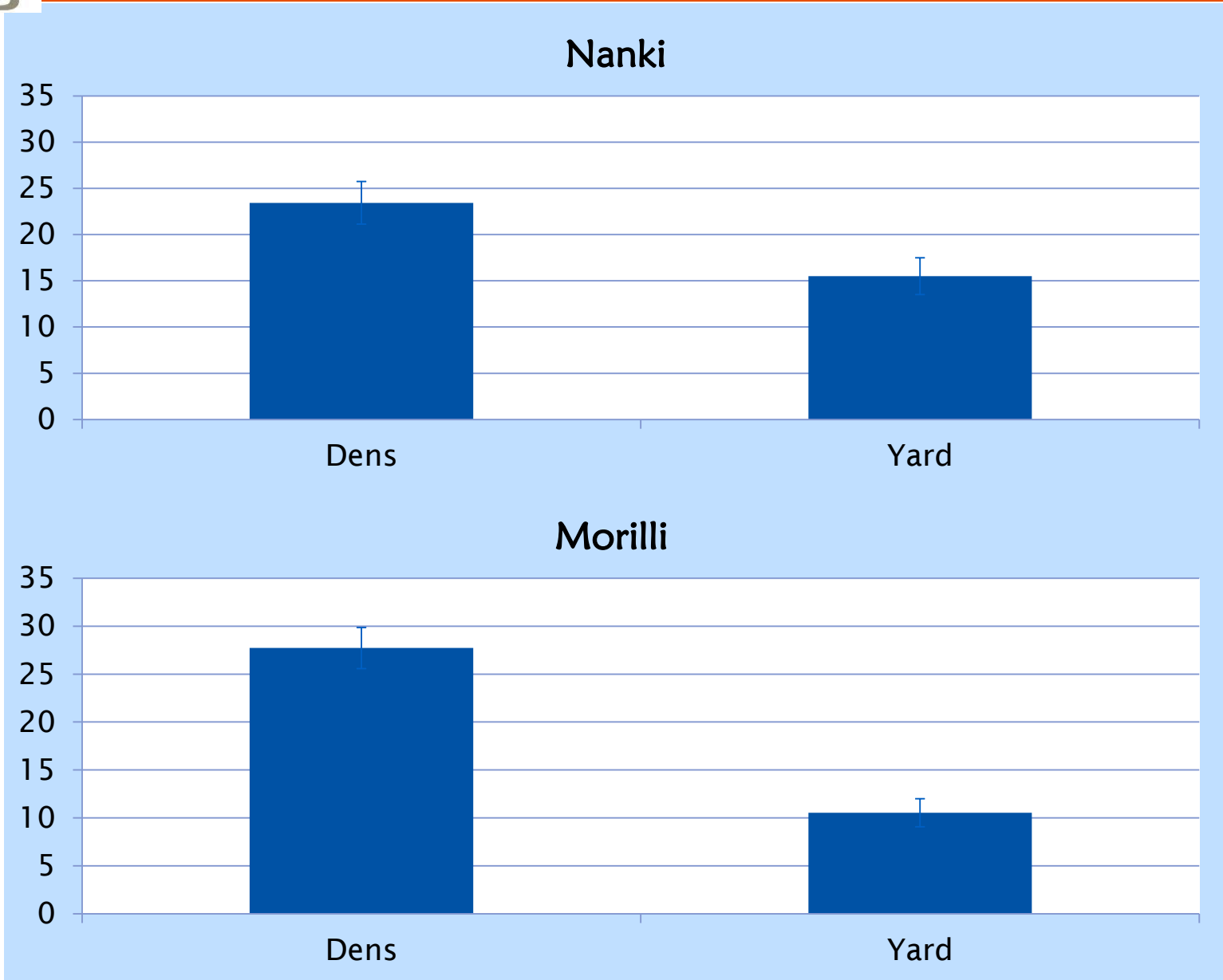

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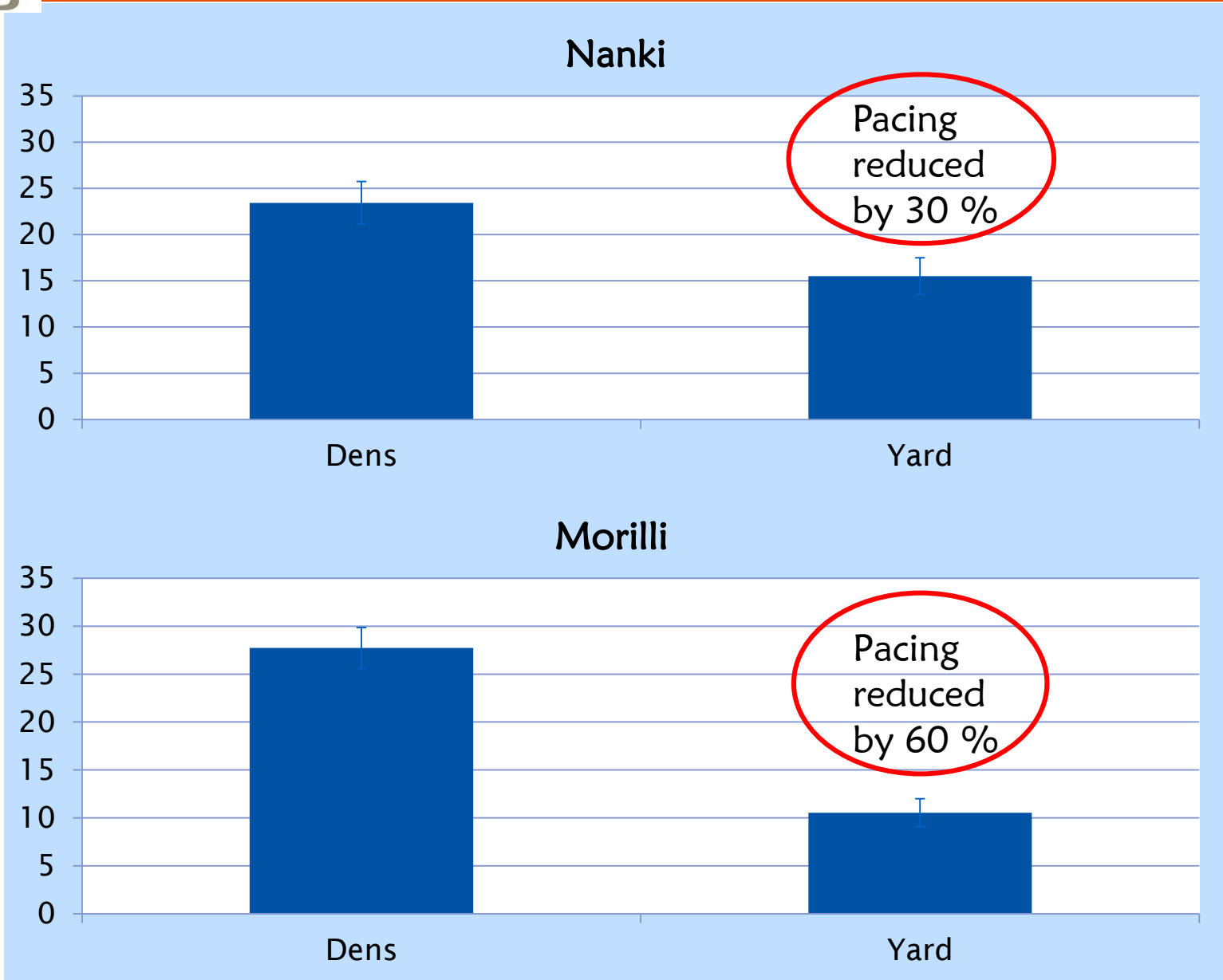
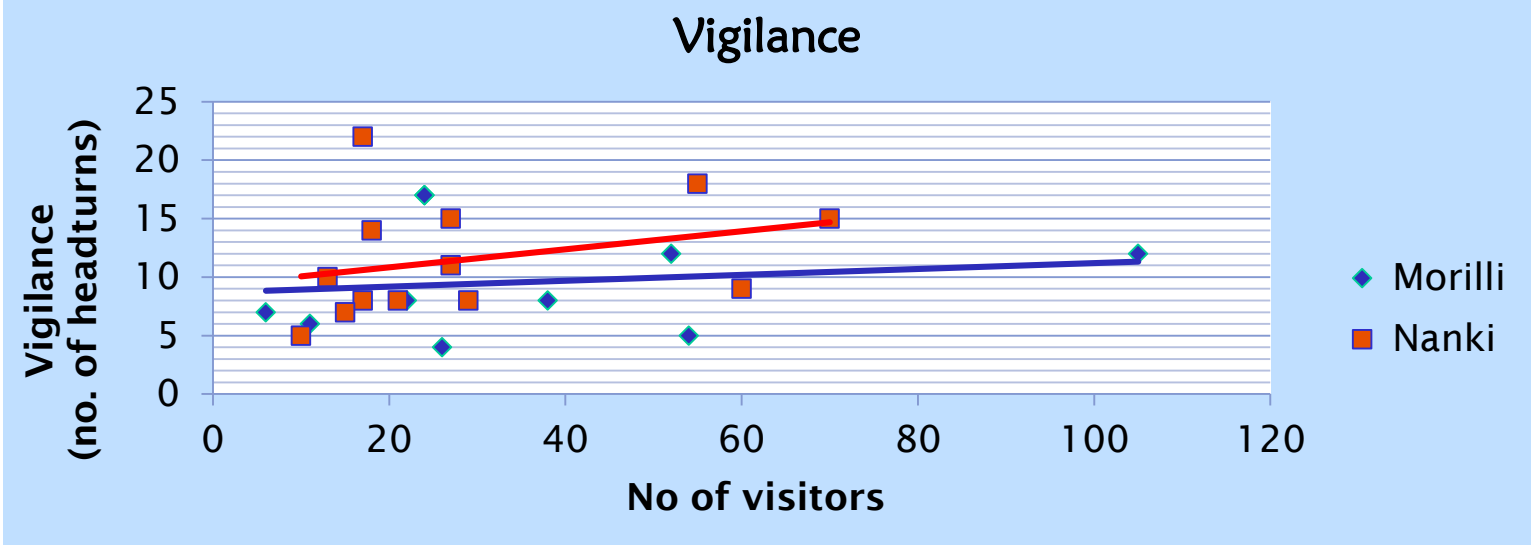
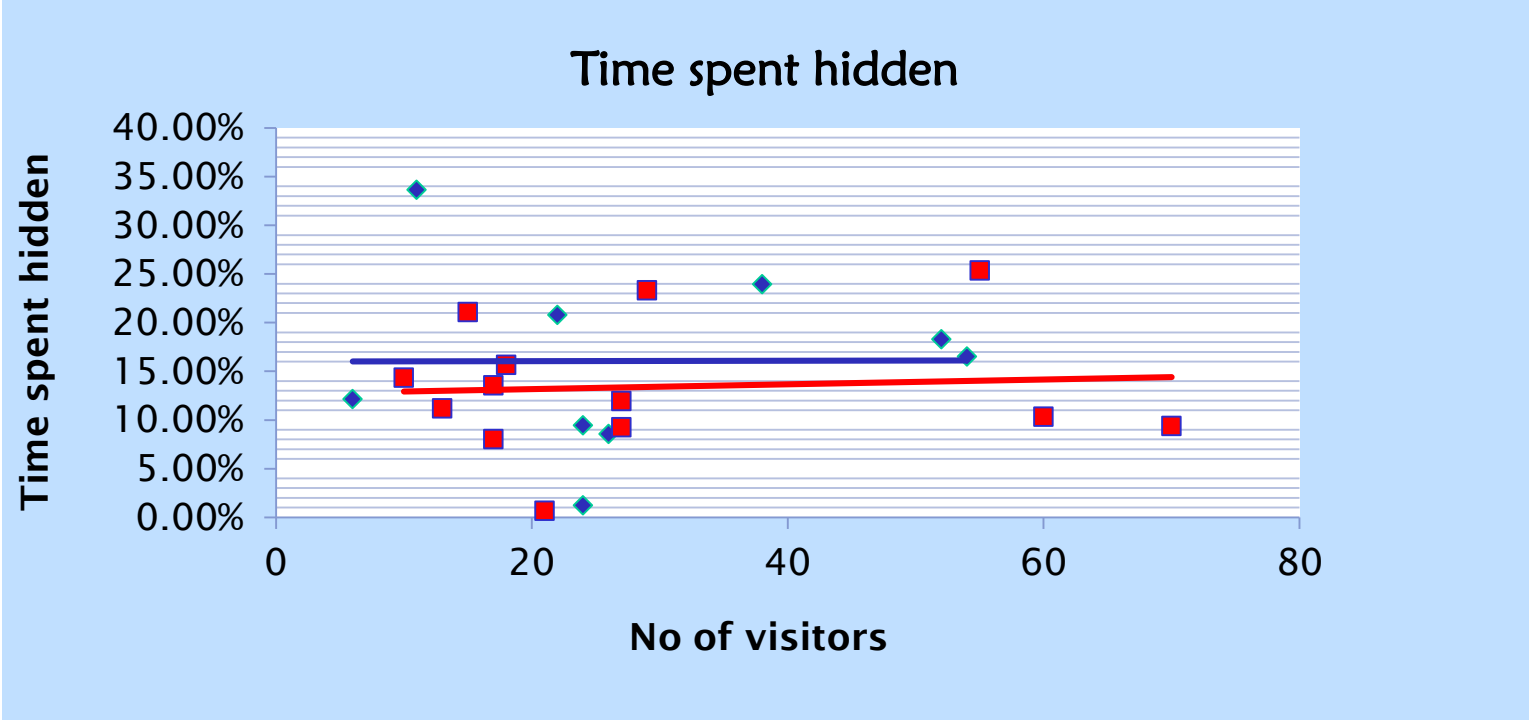
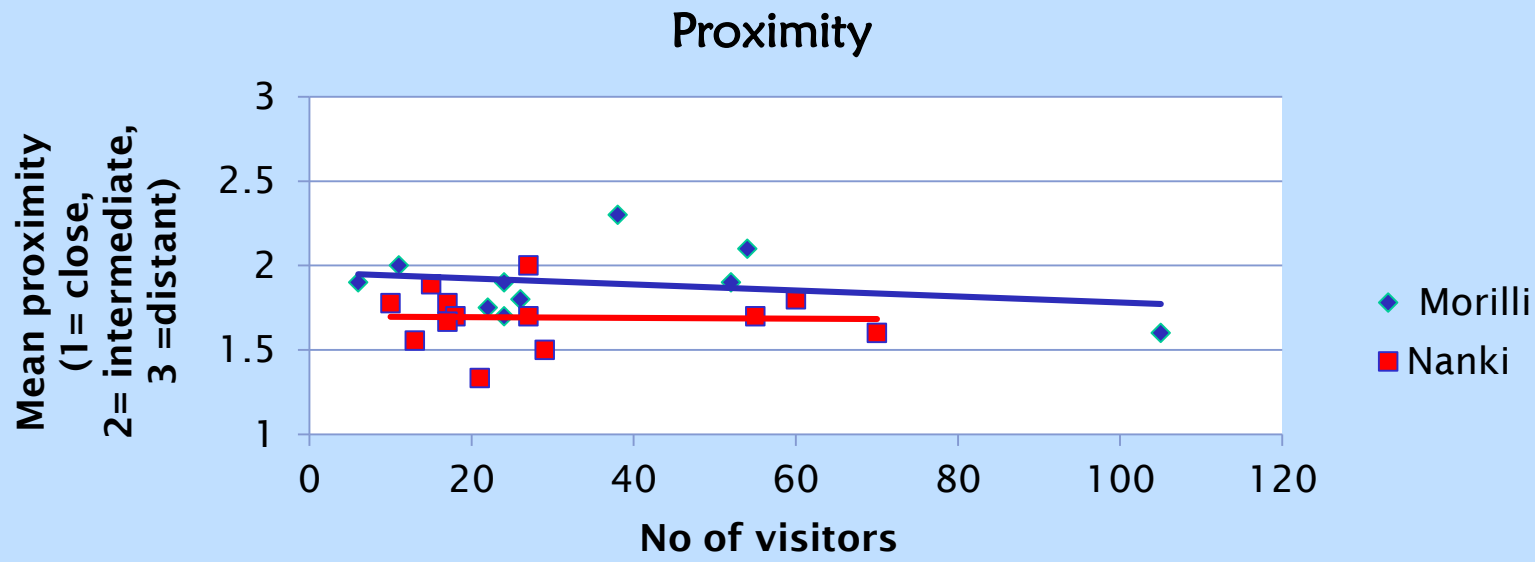


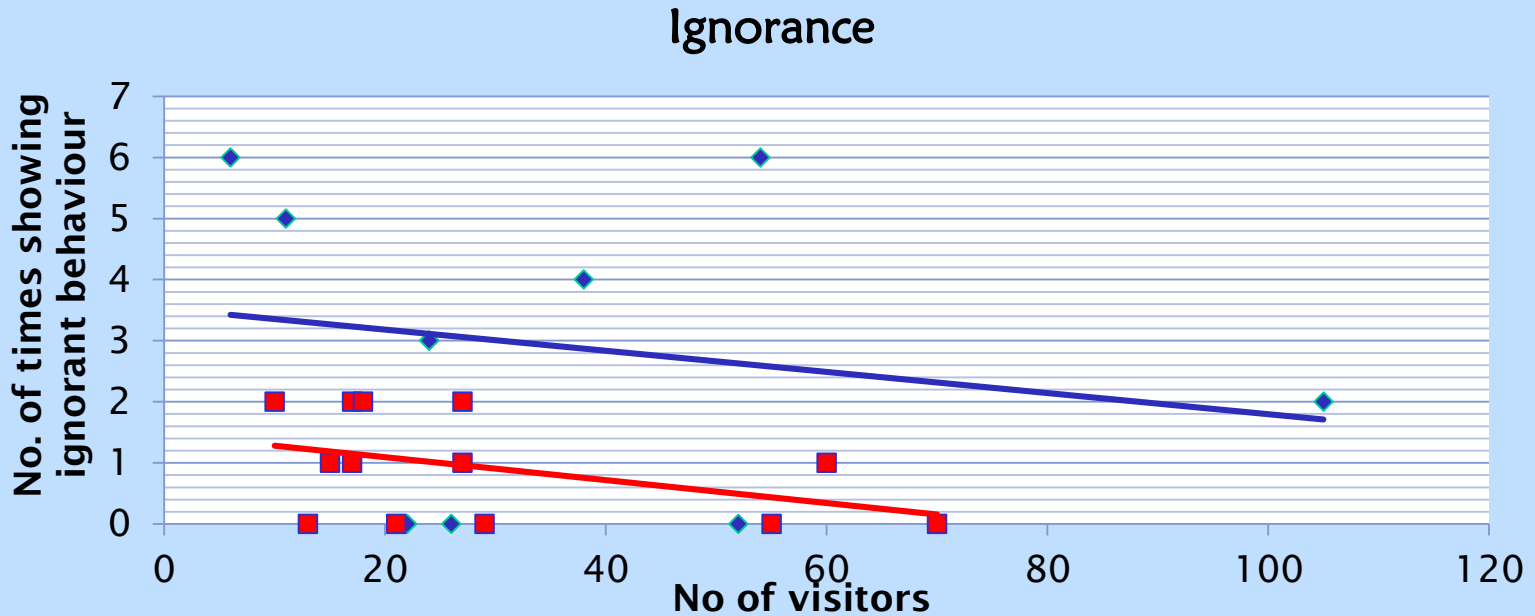
Behavioural observations during presentations

- Recorded serval behaviour with camcorder during presentations
- Quantified vigilance (no. of head turns), percentage time spent hidden, proximity to visitors (scan every 60 s – proximity level 1, 2 or 3) and frequency of ignorant behaviour


Vigilance
Vigilance (no. of headturns)
25
20
15
10
5
0
0
20
40
60
80
100
120
No of visitors
Morilli
Nanki


Time spent hidden
Time spent hidden
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
0
20
40
60
80
No of visitors


Proximity
Mean proximity (1= close, 2= intermediate, 3 =distant)
3
2.5
2
1.5
1
0
20
40
60
80
100
120
No of visitors
Morilli
Nanki


Ignorance
No. of times showing ignorant behaviour
7
6
5
4
3
2
1
0
0
20
40
60
80
100
120
No of visitors

Other variables that may affect behaviour during presentations:

- Unexpected events (noise, sudden movements)
- Environmental stimuli (small prey items, scents, strong winds)

Summary – main findings

- Trend towards lower levels of pacing when cats are engaged in presentations or presentations and BTS, compared to when they undertake BTS only or no visitor interaction.

- May suggest that visitor interaction has an overall positive effect on the servals, if performed in a controlled setting according to a predictable regime.

- Levels of pacing were not consistent throughout the day – pacing appears to be clustered mainly around the activity the cat is *not* undertaking, i.e. cats appear to be frustrated and prone to pacing when missing out on presentations and BTS.

- High levels of pacing occurs for relatively short periods of time. To reduce pacing levels for the non-participating cat, some form of distraction may be useful – enrichment?

Summary – main findings

- ❖ A housing effect was detected – pacing levels generally lower when cats are housed in the yard compared to the dens.
- Implementation of a second serval yard to give cats access to a yard at all times would most likely be beneficial for reducing pacing levels overall.

- ❖ Servals appear to be highly motivated to participate in both presentations and BTS, and in particular presentations – but why?? Do they find visitor interaction stimulating or are they motivated by food rewards, keeper interaction or a temporary change of environment?
- Further experimentation would be required to determine if visitor interaction has a positive or a neutral welfare effect.

Thank you for your attention!

My warmest thanks to:

Keepers and managers at Melbourne Zoo and Werribee Zoo

Volunteer helpers and back-up observers

Supervisors and other relevant people (Sally, Paul, Emily, Kym, Kerry)

My loyal and supportive family and friends