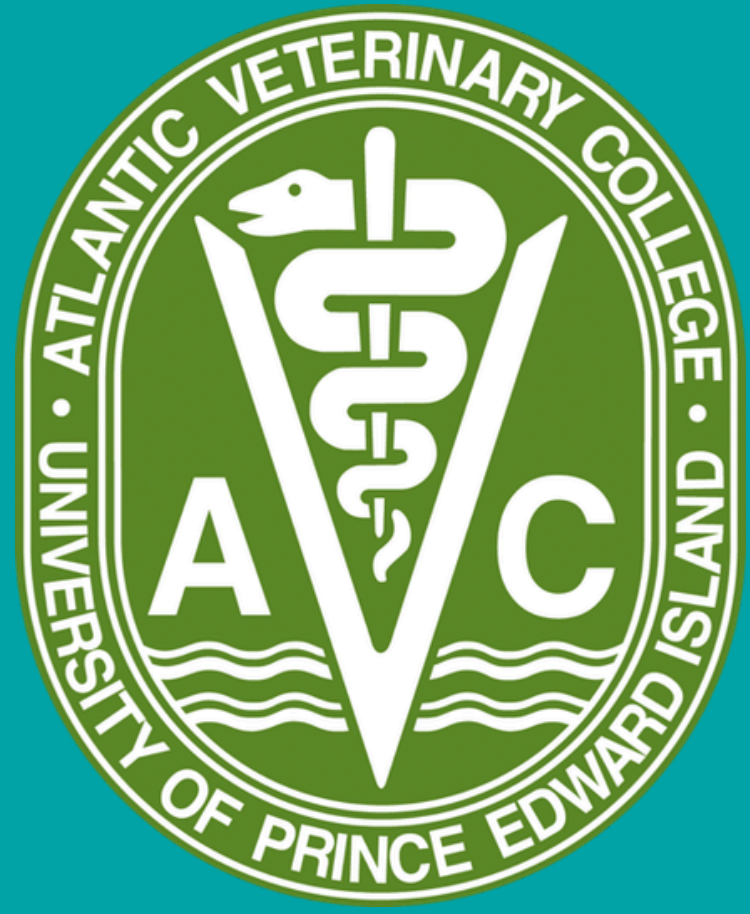




INVESTIGATING THE RELATIONSHIP BETWEEN LYING LATERALIZATION AND RESPONSE TO NOVELTY IN DAIRY CALVES

Ainsley N. Monchesky¹, Wenxuan Ma¹, Cathy L. Ryan², Kathryn L. Proudfoot¹

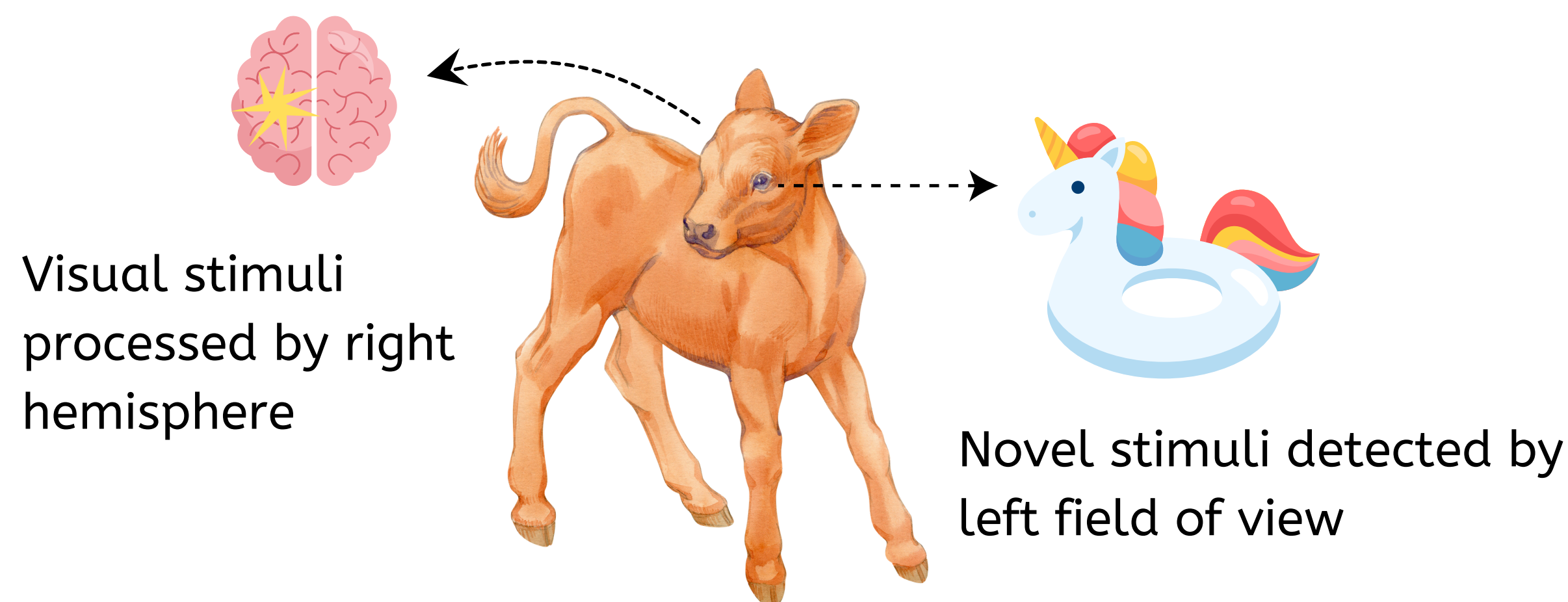
1. Department of Health Management, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, PE, Canada

2. Department of Psychology, University of Prince Edward Island, Charlottetown, PE, Canada



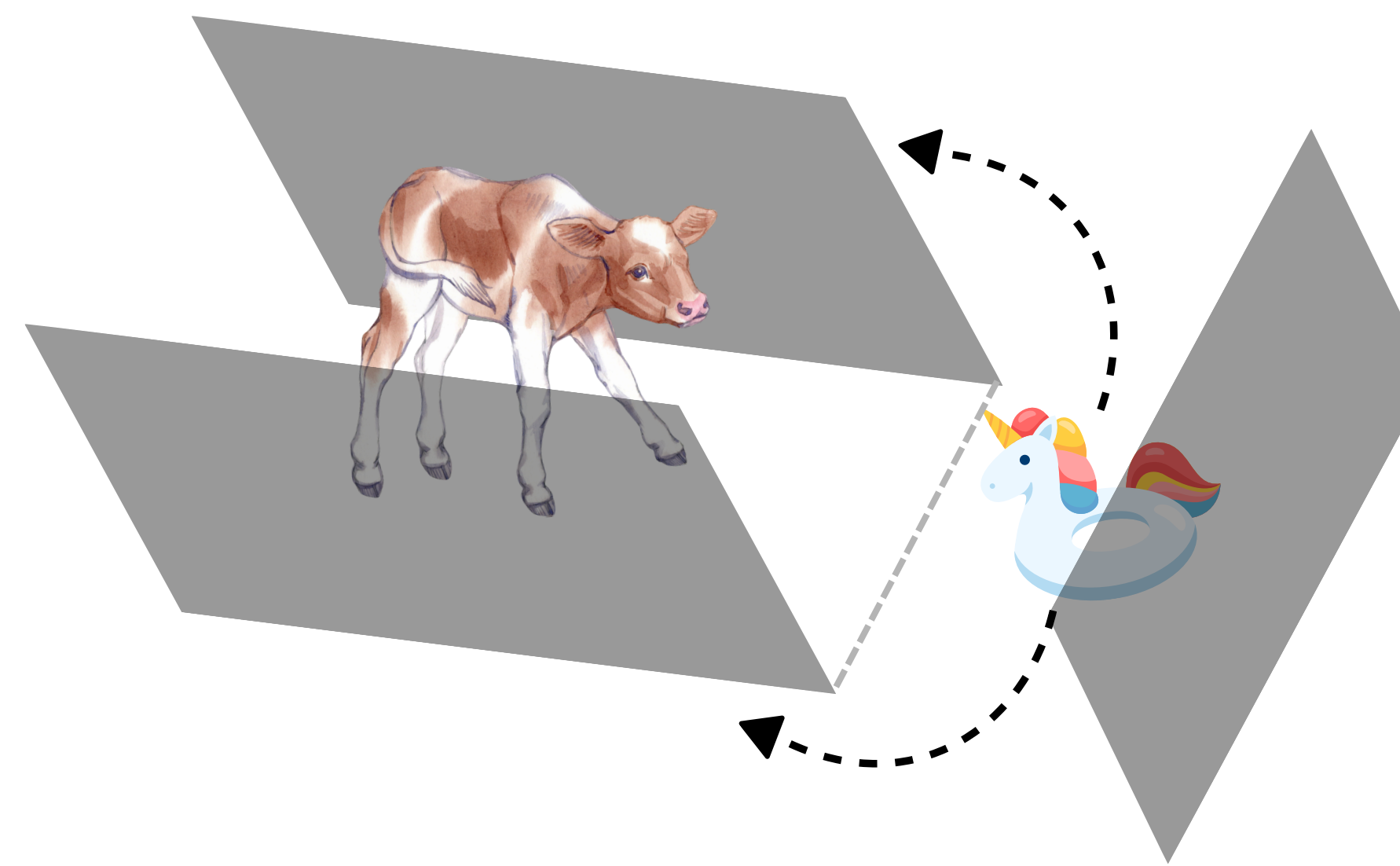
Introduction

- Behavioural lateralization, such as sleeping or lying side preference, has been demonstrated in many species.
- The right hemisphere plays an important role in processing new and potentially threatening stimuli.
- Cattle prefer to observe novel and aversive stimuli using their left field of view; visual input from the left field of view is interpreted by the right side of the brain.
- This phenomenon is not well-understood in dairy calves.

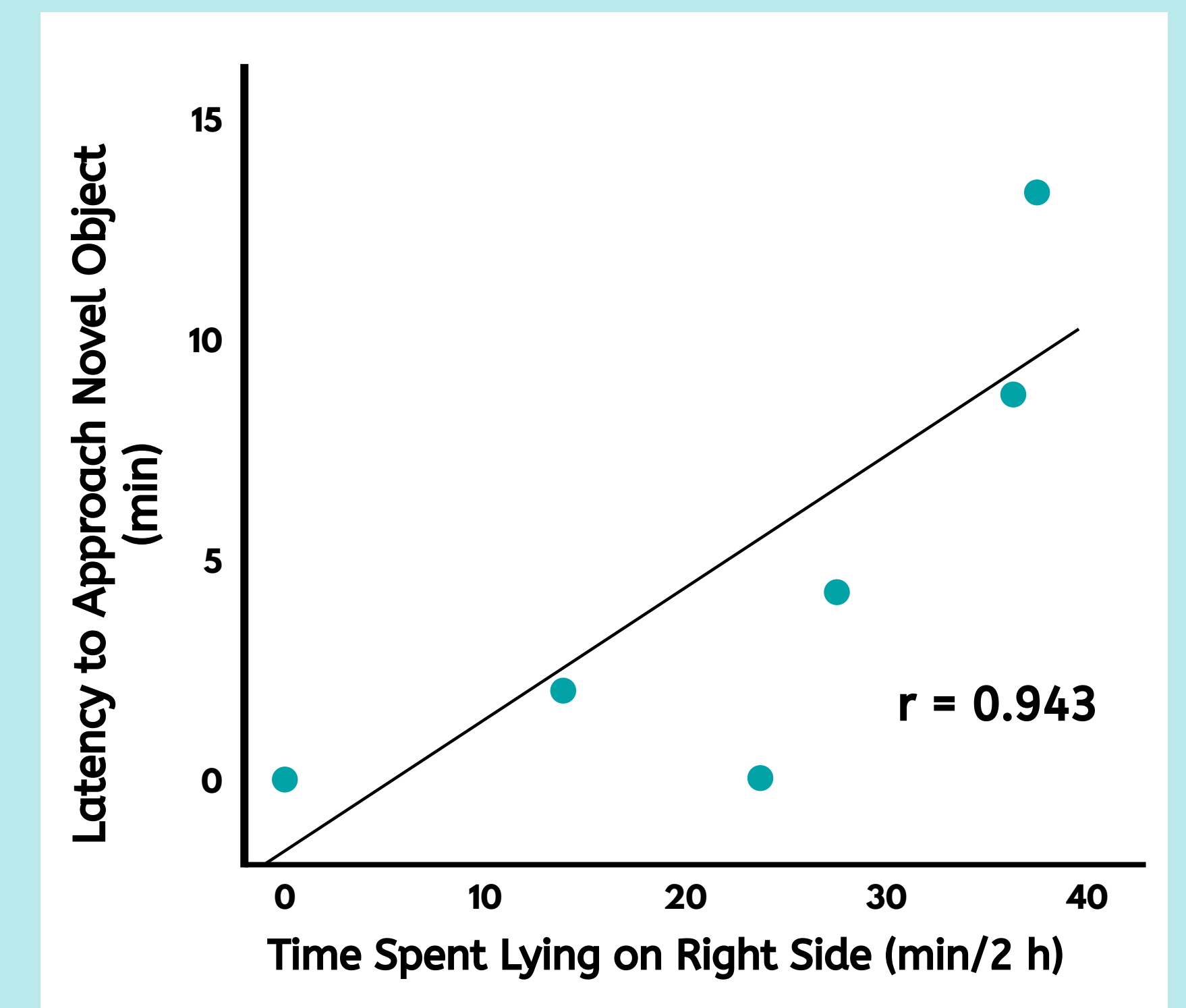


Novel Object Test

- Calves were placed in a T-maze with a novel object.
- Latency to approach (time from an unobstructed view of the novel object to the calf's front limbs crossing the dotted grey line) and arm choice (right or left) were recorded.

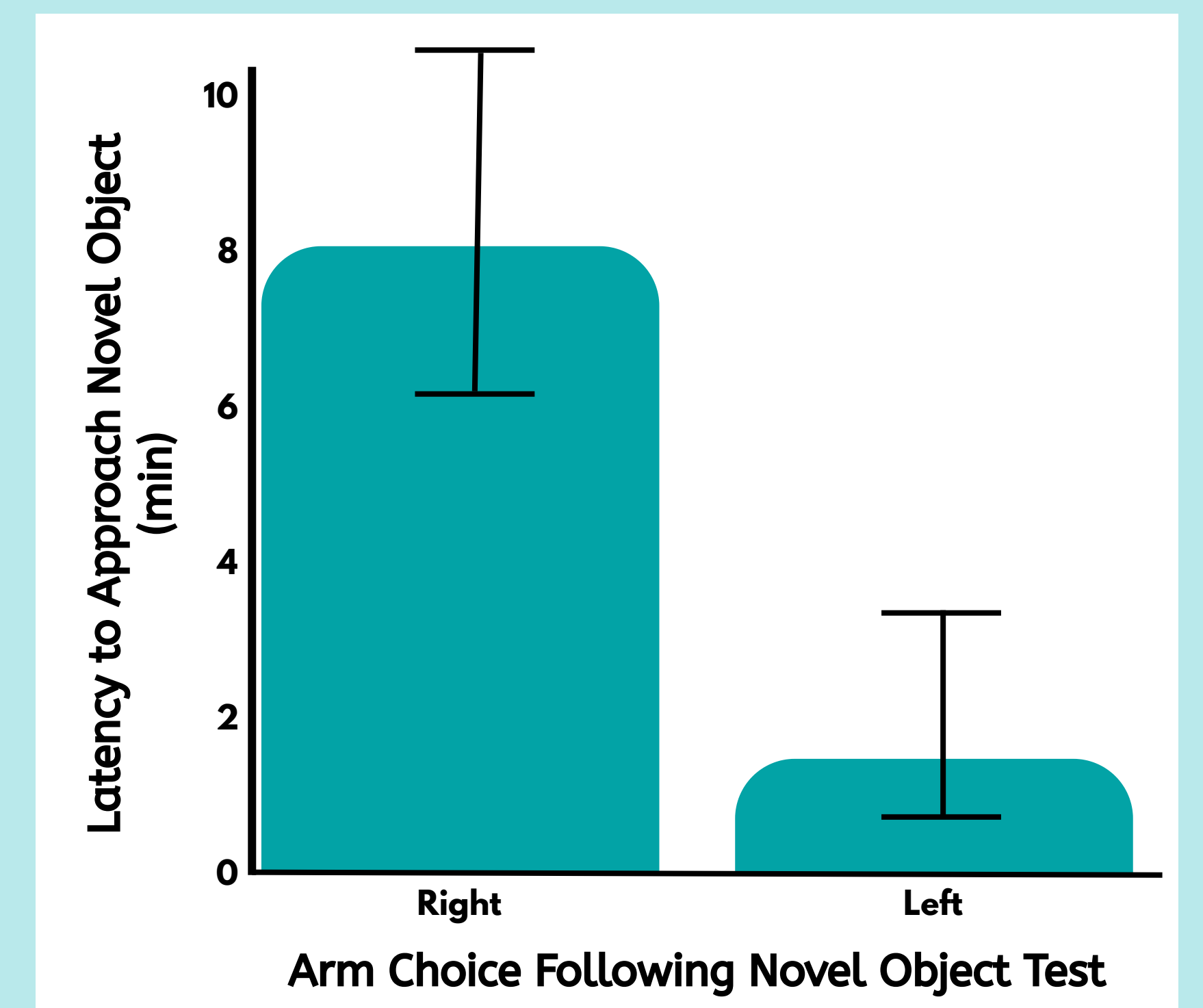


Time spent lying on right side was positively correlated with latency to approach novel object.



Data presented with line of best fit and Spearman's r .

Calves that turned right in the T-maze generally took longer to approach the novel object.



Data presented as mean $\pm$ standard error.

Objectives

- Determine if dairy calves have a sleeping or lying side preference.
- Determine if response to a novel object is related to lateralized behaviour in calves.

Calf Behaviour

- Lying and sleep-like behaviour from 6 calves was scored from 2h of video recordings.



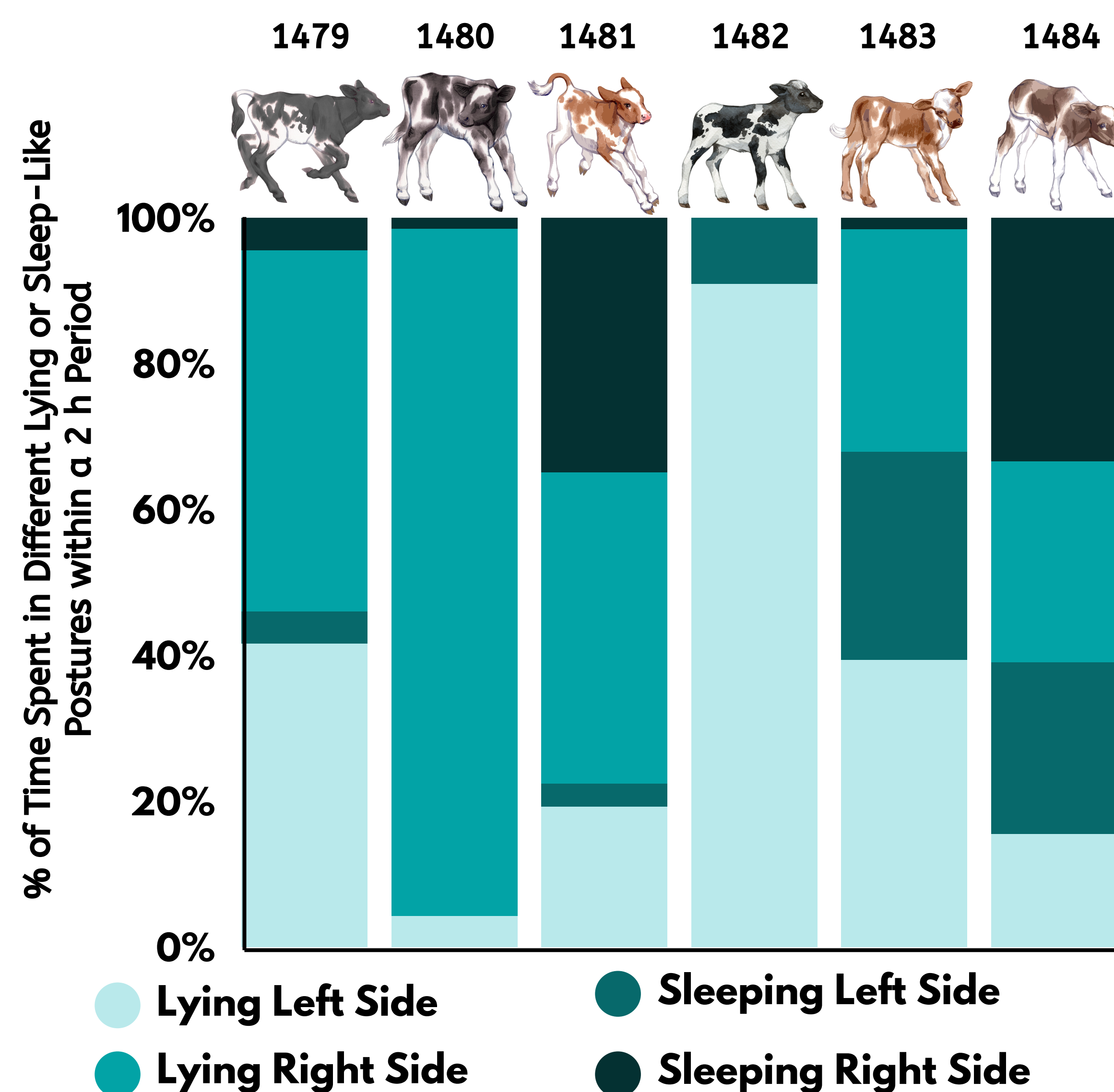
Lying behaviour = sternal + head movement



Sleep-like behaviour = sternal, tucked, or flat-out + no head movement

Results

Different calves appear to have individual side preferences for sleeping and lying.



Acknowledgements

These data have been collected as part of Wenxuan Ma's graduate program. We thank Prairie Dairy Farm for providing dairy calves and space to conduct this study. The project was supported by a Natural Sciences and Engineering Research Council of Canada Discovery Grant #RGPIN-2023-05854.



UNIVERSITY
of Prince Edward
ISLAND