

Go slow feeding bowls: how effective are they at getting dogs to eat more slowly?

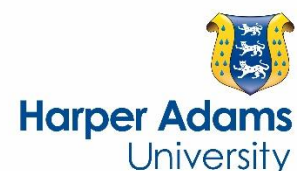
by Buckley, L.A. and Lees, J.

The winning poster which was presented at the Veterinary Evidence Today conference, Edinburgh, November 1-3, 2016.

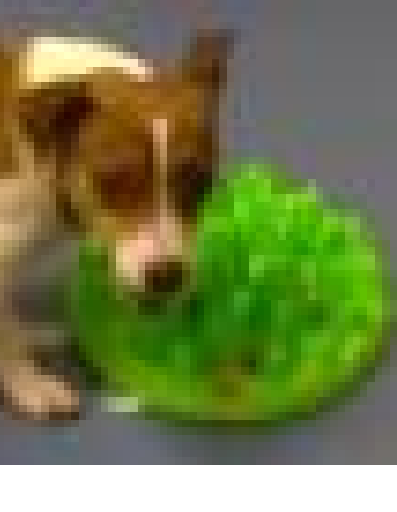
Copyright, Publisher and Additional Information: Published version distributed under the terms of the Creative Commons Attribution License:

<http://creativecommons.org/licenses/by/4.0/>

DOI: 10.18849/ve.v1i4.71



Buckley, L.A. 2016. *Go slow feeding bowls; how effective are they at getting dogs to eat more slowly?* Poster presented at the Veterinary Evidence Today conference, Edinburgh, 1-3 November 2016. [Online]. Veterinary Evidence. Available from: <https://www.veterinaryevidence.org/index.php/ve/article/view/71>.



Go slow feeding bowls: how effective are they are getting dogs to eat more slowly?

Buckley^{†1}, L. A. and Lees¹, J.

¹Dept. Animal Production, Welfare & Veterinary Science, Harper Adams University, Newport, Shropshire. TF9 2JW

[†]Corresponding author: lbuckley@harper-adams.ac.uk Tel: 01952 815147

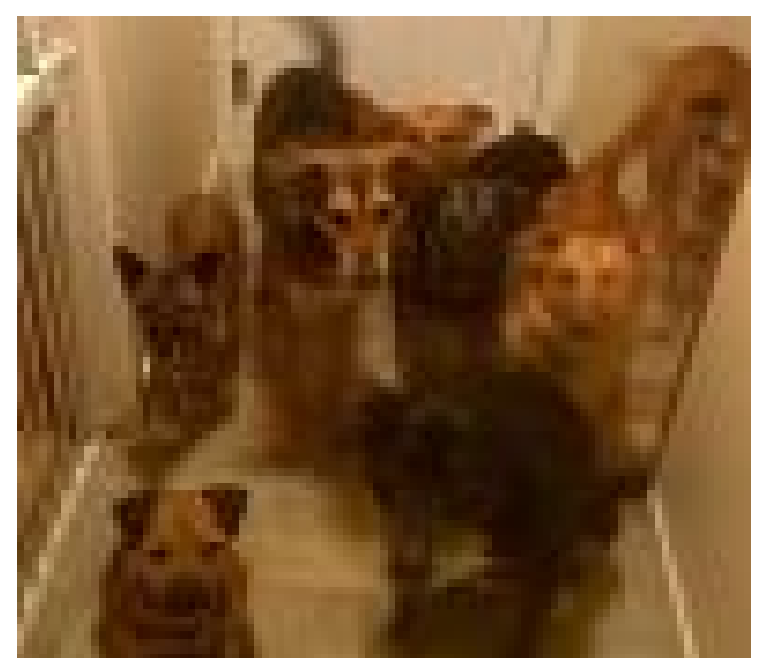
Introduction

This study arose from informal discussions on a vet nursing facebook group in which some vet nurses recommended 'go slow feeder' device (GSF) use to slow down feeding and make feeding fun. The GSF feeder used in the study is described by the supplier as a "revolutionary way to **turn a dog's meal into a challenging time-consuming game. Slowing down eating** helps reduce the risk of bloat..." (GREEN Slow Dog Feeder, Company of Animals, 2016). Slower eating rate is linked to improved satiety in humans (Andrade *et al.*, 2008; Scisco *et al.*, 2011) and may reduce risk of canine gastric dilatation volvulus (GDV) (Glickman *et al.*, 2000; but see: Elwood, 1998; Theyse *et al.*, 1998); therefore, might confer welfare benefits for dogs. Thus, **we decided to test the bolded claims in this study.** We have already reported elsewhere (Buckley & Lees, 2016) the very limited positive effects of this device on behavioural diversity and time budget during feeding, combined with canine preference for a regular dog bowl. This poster concentrates on:

- **The effect of feeder device on indices of speed of eating**
- **The effect of experience on device effectiveness at slowing feeding.**

Feeder preference data is also reproduced here to illustrate the canine perspective.

Methodology



n = 10 pet dogs

Ad hoc convenience sample

- Various ages (1 – 12years), breed types, weights (4.5 – 30kg) and both sexes represented

Randomly allocated

n = 5

n = 5



Dogs were tested for nine days per feeder type

- Feed ½ the daily food ration during the test
- Semi-moist diet familiar to all dogs
- Tested AM (once daily)
- Green feeder size matched to manufacturer recommendations (<10kg = small, >10kg = standard)
- Given 10 minutes to consume the ration
- Data recorded using instantaneous sampling at 1 second intervals



Outcome measures:

1. Latency to consume ration
2. Rate of consumption
3. Behaviours performed during feeding (not reported here)

n = 10

Two way choice test



versus



Ten choice tests per dog

- One test per day for ten days
- Side feeder presented on balanced within dog
- ½ daily ration offered during the test

Outcome measures:

1. First feeder approached
2. First feeder eaten from

Statistical analysis:

- Wilcoxon Matched Pairs / One sample tests
- Reported using medians ± inter-quartile range

Conclusion

Go slow feeding bowls are effective at reducing eating speed and, while dogs become quicker at eating as they develop experience eating from these devices, consumption rate is still slower than that observed when eating from a standard dog bowl. Therefore, *if* slowing down the rate of eating is effective at reducing risk of GDV or confers improved satiety, these bowls may have a role to play in improving the welfare of some dogs. However, we found no evidence that dogs wanted to have their rate of eating slowed down (though feeder colour represents a confound in interpreting these findings) so caution is advised in conflating a slower rate of eating with having fun (a game) and marketing these devices to clients in this way.

References

- Andrade, A. M., Greene, G. W., Melanson, K. J. 2008. *Journal of the American Dietetic Association* 108: 1186 – 1191
- Buckley, L. A. and Lees, J. 2016. *50th Congress of the International Society for Applied Ethology* 12-15th July, Edinburgh, United Kingdom
- Company of Animals. 2016. Green Slow Dog Feeder. [online]. Company of Animals. Available from: <http://www.companyofanimals.co.uk/product/green-slow-dog-feeder> (accessed 27/10/2016)
- Elwood, C. M. 1998. Risk factors for gastric dilation in Irish setter dogs. *Journal of Small Animal Practice* 39: 185 - 190
- Glickman, L. T., Glickman, N. W., Schellenberg, D. B., Raghavan, M., Lee, T. 2000. 217: 1492 - 1499
- Scisco, J. L., Muth, E.R., Dong, J., Hoover, A. W. 2011. *Journal of the American Veterinary Medical Association* *Journal of the American Dietetic Association* 111: 1231 - 1235
- Theyse, L. F. H., Van de Brom, W.E., Van Sluijs, F. J. 1998. *Veterinary Record* 143: 48 – 50

Results

Figure 1: Effect of feeder device on median latency to consume ration (T = 2.0, P = 0.006)

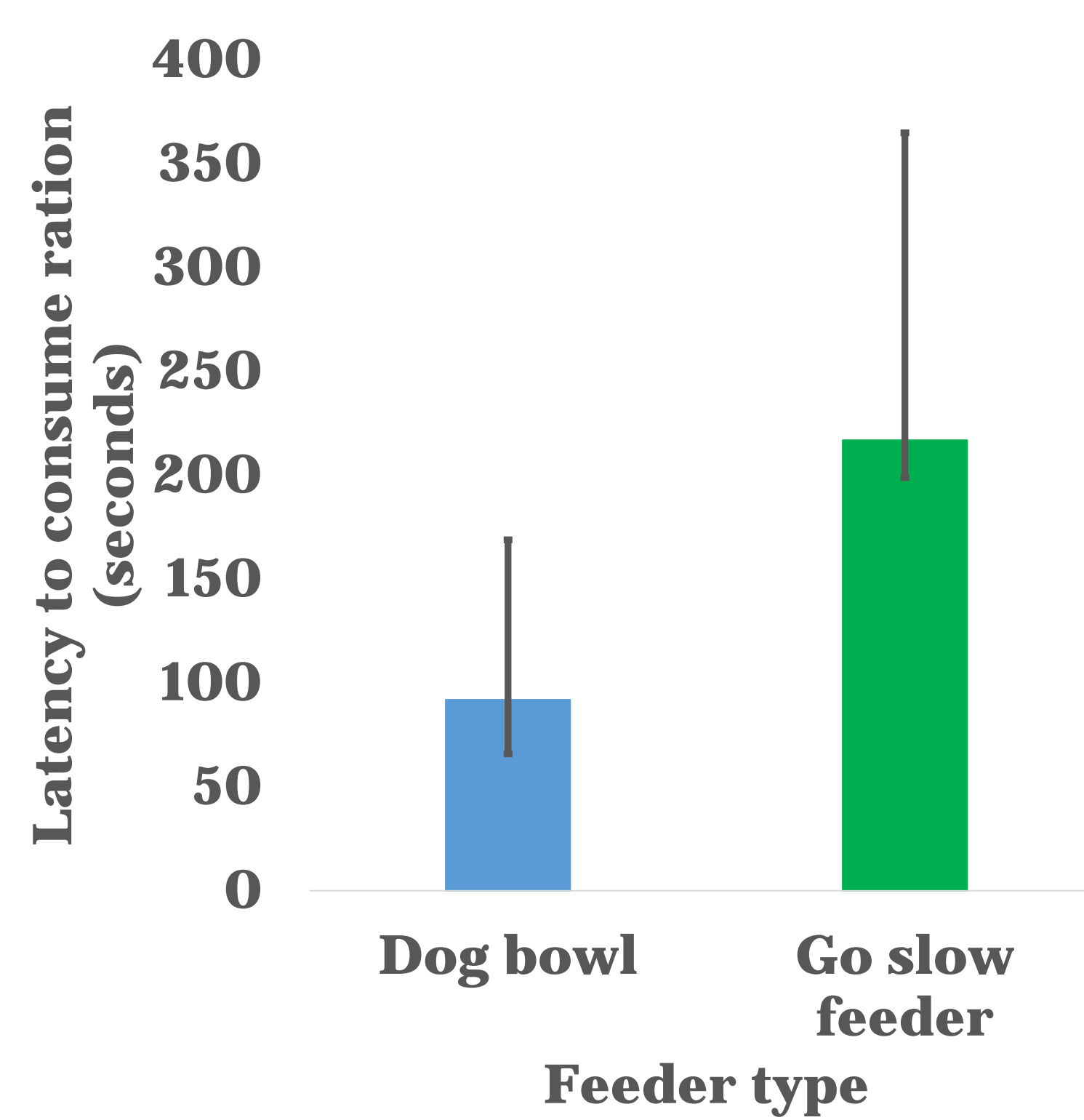


Figure 2: Effect of feeder device on median rate of consumption (T = 0.0, P = 0.002)

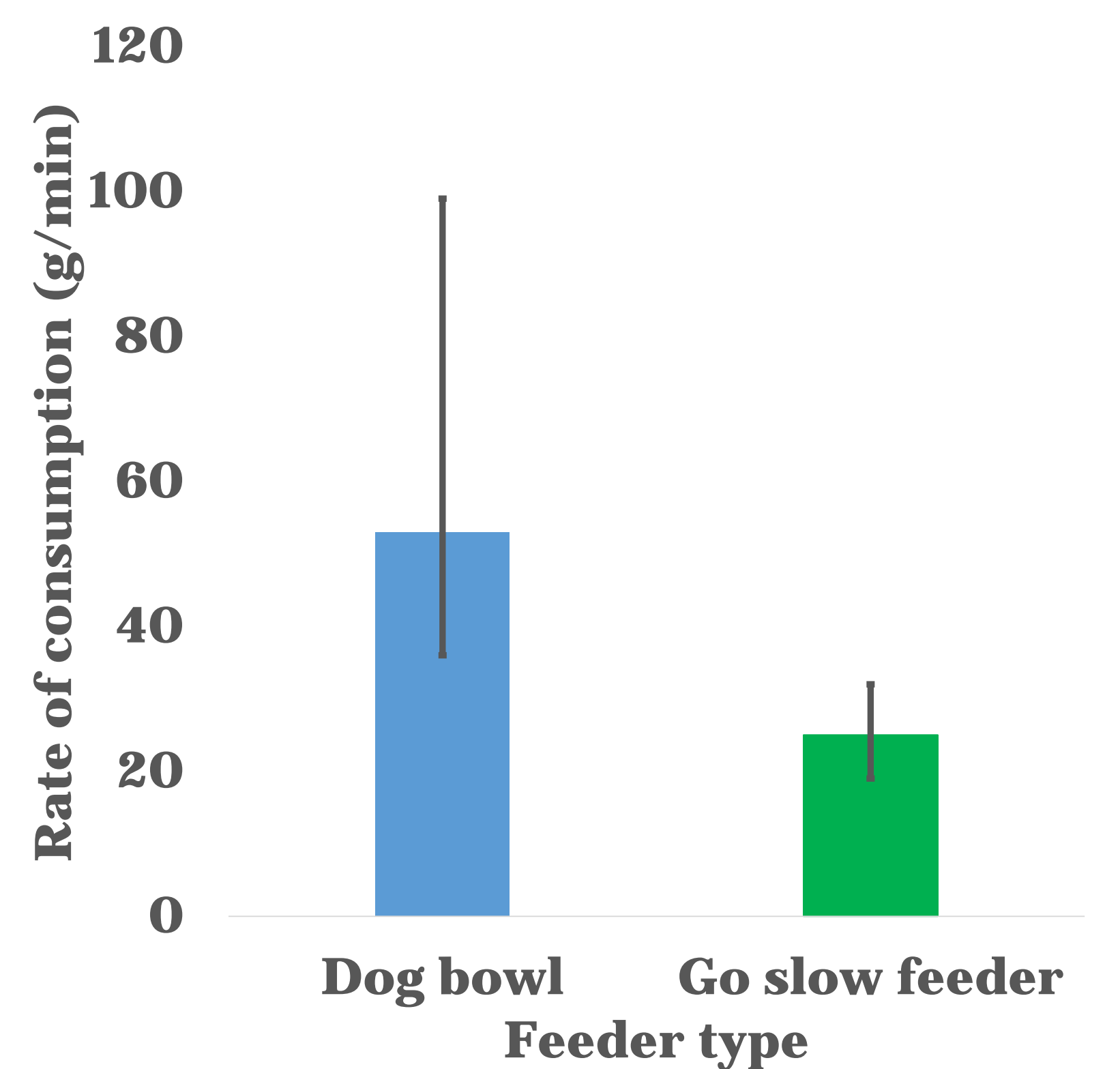
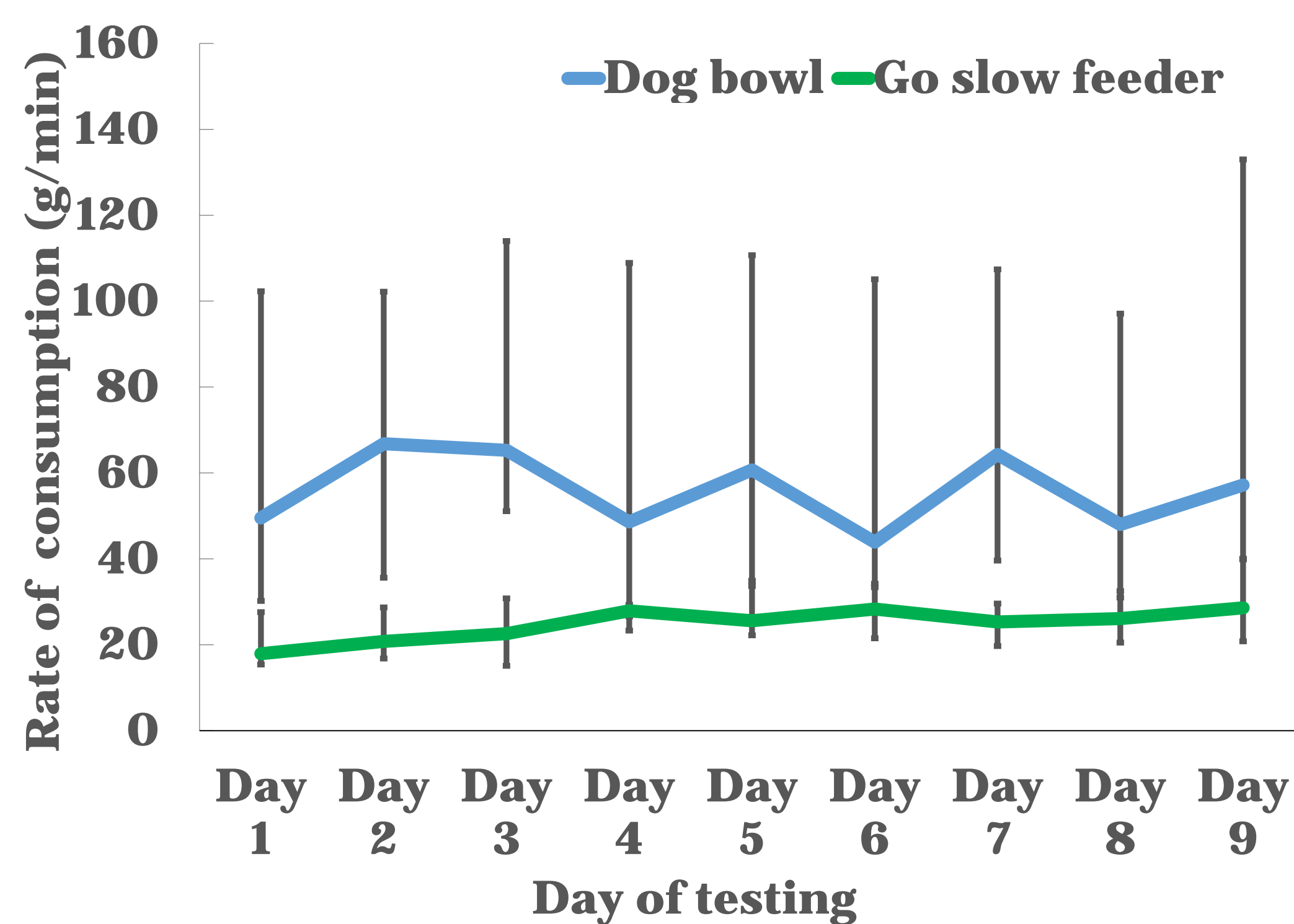


Figure 3: Effect of experience (days) on median rate of consumption



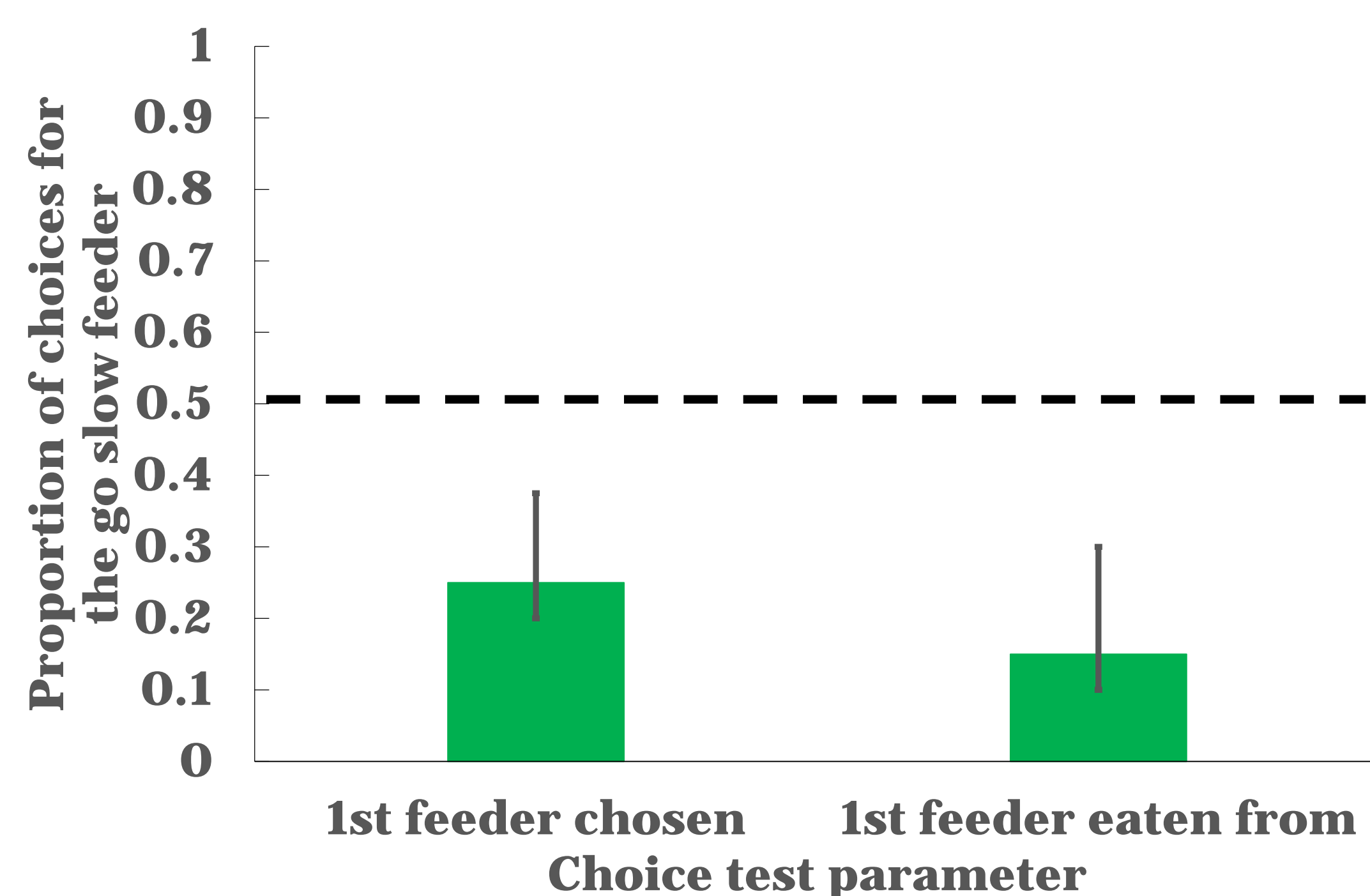
Day 1 (inexperienced) versus day 9 (experienced):

- Experienced dogs were **quicker** at eating from the **go slow feeder** (T = 6.0; P = 0.027)

NB. There was no effect of day on rate of eating from the dog bowl (T = 9.0; P > 0.05)

Figure 4: Median proportion of choices for the go slow feeder option in a two way choice test

Nb. Dashed line (----) signifies the point of no preference.



1st bowl approached (T = 0.0; P = 0.008)

1st feeder eaten from (T = 0.0; P = 0.002)

Nb. A version of this data was previously reported at ISAE, 2016