An undergraduate classroom experiment demonstrates the potential of unconscious bias to influence data collection in animal behaviour

Supplementary material

Click **here - hidden for blind review** to view the HTML report, which serves as online supplementary material for the associated manuscript (*insert DOI*), in review at *Behavioural Ecology*. The report documents our empirical analysis (contains raw data and R-script) and provides all supplementary Figures and Tables.

In an attempt to future proof the availability of our supplementary material, we also include the supplementary methods and Tables S1-S5 in this document. Additionally, our raw data is deposited in the Dryad database **update when applicable**.

Priming statements

'Hungry forager' primer: "The video was recorded just after winter, which is typically the most difficult season of the year for pigeons in terms of feeding and survival. About 30% of pigeons do not survive winter; many that do survive experience a significant loss of body mass and must make the most of every feeding opportunity that arises in order to regain condition."

'Satiated forager' primer: "The video was recorded late in the afternoon near Jewell railway station, a favourite spot for commuters to feed the pigeons. Moreland Council estimates that locals dump 5-10kg of bread and seed here, creating a superabundant daily food source. By the end of the day, many of the birds are completely satiated and have little or no motivation to feed."

Estimating baseline feeding rate

We estimated a baseline peck rate by observing 35 pigeons. To select the pigeons we observed, we split a still image of the foraging video (taken at time zero) into a 43 x 21 cell grid. From the 122 cells that contained pigeons, 40 were chosen by random number generation. In the event that multiple pigeons were present in the cell, we selected the most prominent to observe. Five observations were discarded - three due to overlap of the same pigeon between cells that were selected by the random number generator, and two more as the pigeons left the field of view during the video and could no longer be tracked.

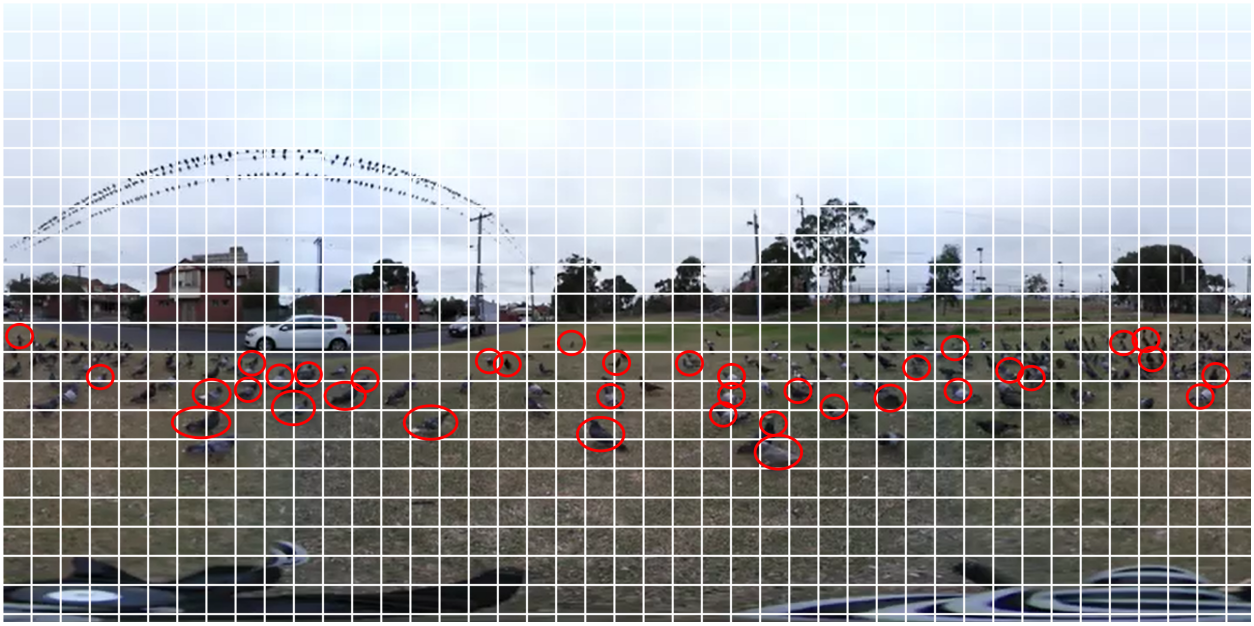

Figure S1. the pigeons selected for baseline estimation of feeding rate.

Supplementary Tables

Table S1. Posterior estimates of the percentage of pigeons foraging, split by the primer that students were allocated.

Bias treatment	n students	Estimated % foraging	Est.Error	Q2.5	Q97.5
Hungry	44	34.84	4.32	26.7	43.68
Satiated	37	35.36	4.27	27.24	44.09

Table S2. Posterior estimates of the percentage of pigeons foraging, split by the actual expectation of the students.

Indicated expectation	n students	Estimated % foraging	Est.Error	Q2.5	Q97.5
Hungry	45	36.98	4.17	29.13	45.32
Satiated	36	32.24	4.49	23.75	41.32

Table S3. The estimated peck rate of foraging pigeons, split by the primer students were allocated. Each student observed two pigeons.

Bias treatment	n pigeons observed	Estimated peck rate	Est.Error	Q2.5	Q97.5
Hungry	88	10.25	1.91	7.02	14.48
Satiated	74	8.64	1.62	5.94	12.26
Baseline	35	1.32	0.51	0.54	2.53

Table S4. The estimated peck rate of foraging pigeons, split by the indicated expectation of the students. Each student observed two pigeons.

Indicated expectation	n pigeons observed	Estimated peck rate	Est.Error	Q2.5	Q97.5
Hungry	90	11.44	2.01	8.05	15.94
Satiated	72	7.23	1.36	4.94	10.25
Baseline	35	1.32	0.51	0.54	2.53

Table S5. The degree to which each group of students overestimated feeding rate (number of ground pecks per minute)

Stat	Median	Est.Error	Q2.5	Q97.5
Bias treatment Hungry / Baseline	7.83	4.34	3.53	19.61
Bias treatment Satiated / Baseline	6.58	3.65	2.97	16.49
Expectation Hungry / Baseline	8.74	4.82	4.01	22.16
Expectation Satiated / Baseline	5.5	3.1	2.47	13.92