



Dr Richard Parker
B.Sc., Ph.D.(Bristol)

Senior Research Associate in Medical Statistics/Epidemiology - MRC IEU

Area of research

Research Associate

Office BG2
Oakfield House,
Oakfield Grove, Clifton BS8 2BN
([See a map](#))

+44 (0) 117 331 0192 ext 10192
richard.parker@bristol.ac.uk

Summary

I joined the Integrative Epidemiology Unit (IEU) in 2017 to work on my current project, developing methods to explore the relationship between how variable different people are with regard to some repeatedly-measured indicator (for example their blood pressure) and a later outcome of interest (for instance a marker of cardiovascular disease). I work on this MRC-funded project with [Kate Tilling](#) (PI), [Harvey Goldstein](#), [Jon Heron](#), [Laura Howe](#), [George Leckie](#) and [Graciela Muniz-Terrera](#).

Prior to this role, I was based at the [School of Education](#), as a researcher on an ESRC-funded project investigating the use of interactive electronic-books in the teaching and application of modern quantitative methods in the social sciences, and working as a part-time lecturer in Social Statistics/Quantitative Methods as well. The research work was with [Bill Browne](#) (PI), [Chris Charlton](#), and colleagues formerly in the University of Southampton, including [Luc Moreau](#) and Danius Michaelides.

My earlier background is in biology and psychology, and the areas they intersect. I conducted my PhD, developing novel indicators of emotional state in animals, in the Animal Welfare and Behaviour group at Bristol's Veterinary School, with [Mike Mendl](#), [Liz Paul](#) and [Oliver Burman](#). This followed my undergraduate degree in Joint Honours Psychology and Zoology (BSc); as such, I'm a graduate member of the British Psychological Society.

Biography

I completed my BBSRC-funded PhD in 2008 on 'Cognitive Bias as an Indicator of Emotional State in Animals', supervised by [Mike Mendl](#) and [Liz Paul](#) in the Animal Welfare and Behaviour (AWB) research group in the University of Bristol's School of Veterinary Sciences.

Since then, I have worked on a variety of research projects (with the most recent first):

- [The use of interactive electronic-books in the teaching and application of modern quantitative methods in the social science](#), an ESRC-funded project running until 2016.
- [e-Stat](#) project, developing statistical software for complex statistical models (ESRC), with [Bill Browne](#);
- The efficacy of a participatory-based intervention as a means of reducing lameness, and improving other aspects of health and welfare, in working horses and donkeys in India and Pakistan (The Brooke), with [Becky Whay](#), Joy Pritchard and Christine Reix;
- Effect of breed on the welfare and productivity of cattle and goats on small holdings in East Africa (Send a Cow), with [Becky Whay](#);
- Developing a behavioural test to predict future tail-biting in pigs (EU Welfare Quality), with [Mike Mendl](#) and [Poppy Statham](#);
- Identifying risk factors for tail-biting in pigs (BPEX), with [David Main](#), Nina Taylor, [Mike Mendl](#) and [Sandra Edwards](#);
- [Sample Size, Identifiability and MCMC Efficiency in Complex Random Effect Models](#) (ESRC): with [Bill Browne](#).

Prior to my PhD, I read Psychology and Zoology (BSc) Joint Honours at the University of Bristol, and then spent time travelling in Australia and New Zealand, working on farms, factories, and as a Field Assistant at the Department of Zoology, University of Melbourne. Back in the UK, I worked as a Research Assistant in

the Psychological Medicine Research Group at the University of Manchester, and also at the Division of Psychology at the University of Northumbria.

Keywords

- Statistics
- Education
- Multi-level analysis
- Epidemiology
- Experimental design
- Animal behaviour
- Animal welfare
- Cognition
- Emotion

Skills

- Royal Statistical Society
- British Psychological Society
- Association for the Study of Animal Behaviour

Expertise

I am a member of the Animal Welfare and Behaviour research group. I am interested in the welfare of working horses and donkeys in India and Pakistan and the welfare and productivity of cattle and goats in East Africa, including differences by breed and the factors pre-disposing pigs to developing tail-biting. I'm also interested in the analysis of multi-level data, including sample size calculations. Finally, I conduct research on cognition and consciousness in animals (human and non-human), including emotion-related changes in cognitive processes.

- animal behaviour

Memberships

Organisations

[Bristol Medical School \(PHS\)](#)

Other sites

- [Cmm](#)
- [Education](#)

Recent publications

- Barrett, JK, Huille, R, Parker, R, Yano, Y & Griswold, M, 2019, '[Estimating the association between blood pressure variability and cardiovascular disease: An application using the ARIC Study](#)'. *Statistics in Medicine*, vol 38., pp. 1855-1868
- Duncan, L, Yilmaz, Z, Gaspar, H, Walters, R, Goldstein, J, Anttila, V, Bulik-Sullivan, B, Ripke, S, Thornton, L, Hinney, A, Daly, M, Sullivan, PF, Zeggini, E, Breen, G, Bulik, CM, Duncan, L, Yilmaz, Z, Gaspar, H, Walters, R, Goldstein, J, Anttila, V, Bulik-Sullivan, B, Ripke, S, Adan, R, Alfredsson, L, Ando, T, Andreassen, O, Aschauer, H, Baker, J, Barrett, J, Bencko, V, Bergen, A, Berrettini, W, Birgegård, A, Boni, C, Perica, VB, Brandt, H, Burghardt, R, Carlberg, L, Cassina, M & others 2017, '[Significant locus and metabolic genetic correlations revealed in genome-wide association study of anorexia nervosa](#)'. *American Journal of Psychiatry*, vol 174., pp. 850-858
- Browne, W, Parker, R, Charlton, C, Michaelides, D & Moreau, L, 2016, '[Stat-JR LEAF Workflow Guide \(1.0.4 Beta Release\)](#)'. Centre for Multilevel Modelling, University of Bristol
- Michaelides, DT, Parker, RMA, Charlton, CMJ, Browne, WJ & Moreau, L, 2016, '[Intermediate notation for provenance and workflow reproducibility](#)'. in: Marta Mattoso, Boris Glavic (eds) *Provenance and Annotation of Data and Processes: 6th International Provenance and Annotation Workshop, IPAW 2016, McLean, VA, USA, June 7-8, 2016, Proceedings*. Springer Verlag, pp. 83-94
- Zhang, Z, Parker, R, Charlton, C, Leckie, G & Browne, W, 2016, '[R2MLwiN: A program to run the MLwiN multilevel modelling software from within R](#)'. *Journal of Statistical Software*, vol 72.
- Hothersall, B, Caplen, GJ, Parker, RMA, Nicol, CJ, Waterman-Pearson, AE, Weeks, CA & Murrell, JC, 2016, '[Effects of carprofen, meloxicam and butorphanol on broiler chickens' performance in mobility tests](#)'. *Animal Welfare*, vol 25., pp. 55-67
- Reix, CE, Dikshit, AK, Hockenhull, JS, Parker, RMA, Banerjee, A, Burn, CC, Pritchard, JC & Whay, HR, 2015, '[A two-year participatory intervention project with owners to reduce lameness and limb abnormalities in working horses in Jaipur, India](#)'. *PLoS ONE*, vol 10.
- Whay, HR, Dikshit, AK, Hockenhull, JS, Parker, RMA, Banerjee, A, Hughes, SI, Pritchard, JC & Reix, CE, 2015, '[Evaluation of changes in equine care and limb-related abnormalities in working horses in Jaipur, India, as part of a two year participatory intervention study](#)'. *PLoS ONE*, vol 10.
- Parker, RMA & Browne, WJ, 2014, '[The place of Experimental Design and Statistics in the 3Rs](#)'. *ILAR Journal*, vol 55., pp. 477-485
- Parker, RMA, Paul, ES, Burman, OHP, Browne, WJ & Mendl, M, 2014, '[Housing conditions affect rat responses to two types of ambiguity in a reward-reward discrimination cognitive bias task](#)'. *Behavioural Brain Research*, vol 274., pp. 73-83

[View complete publications list](#) in the University of Bristol publications system