

# COHEN R. SIMPSON

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## STATISTICAL ANALYSIS COMPETENCIES

**Langs:** Python [Preferred], R, SQL

- Causal Inference (i.e., Potential Outcomes) + Experimental Design
- Probabilistic OO Programming (Bayesian Inference) with PyMC
- Frequentist Inference with Statsmodels
- Generalised Linear Models (GLMs) + Multilevel Models
- Social Network Analysis (e.g., Models of Network Formation)
- Survival Analysis/Time-to-Event Models (i.e., Cox Regression)
- Neural Networks with PyTorch

## EDUCATION

**PhD:** Social Research Methods (i.e., Applied Statistics) [Full Studentship], London School of Economics **2012 – 2016**  
**Visiting Student:** Media Lab (Human Dynamics Group), Massachusetts Institute of Technology **Autumn 2013**  
**MSc:** Social Science of the Internet [Clarendon Scholar], University of Oxford **2011 – 2012**  
**BA:** Communication Studies [Summa Cum Laude; GPA = 3.97/4.00], Clemson University **2007 – 2011**

## EXPERIENCE

**Visiting Fellow/Fellow in Quantitative Research Methods, London School of Economics** **Jan 2022 – Present**

- Built Dirichlet-Multinomial models to predict money lending in 16 villages in Uganda (2,559 adults) using Python (PyMC) – munging data and model output (i.e., posterior samples) with NumPy + Pandas (e.g., joining, grouping, and pivoting 2D arrays of  $\approx 1\text{K}$ -30M rows).

**Project Write-Up:** “The Relational Bases of Informal Financial Cooperation.” [Python Code: <https://github.com/cohensimpson/money>]

- Taught practical, 1-hour classes (3/week) for  $\approx 60$  non-technical students (MSc & PhD) on highly interpretable forms of supervised statistical learning (i.e., OLS, binary logistic, multinomial logistic, ordinal logistic, Poisson, and negative binomial regression) using R + Markdown.
- Briefed students on randomized experiments (i.e., fully- vs. block- vs. cluster-randomised designs) and key quasi-experimental techniques (i.e., propensity score matching, fixed effects, instrumental variables, regression discontinuity, difference-in-differences, synthetic control).
- Co-designed 3-year project on inter-group cooperation in Ethiopia – leading creation of hypotheses, design of the statistical analysis ( $\approx 400$  adults), and key aspects of survey design and project roadmap. Secured \$447,116 in project funding from US National Science Foundation.

**British Academy Postdoctoral Research Fellow, University of Oxford** **Jan 2018 – Dec 2020**

- Drove 4 research projects (3 solo) on the genesis of social relationships (i.e., friendship, altruism) end-to-end – moving from ambiguous aims to testable hypotheses, wrangling + analysing tabular data, and writing all elements of the published papers used to report results.
- Built simulations of network dynamics (e.g., reciprocity, popularity-bias) in 165 villages – 162 in China (4,713 adults), 2 in India (782 adults), and 1 in Nicaragua (108 adults), synthesising results from the Chinese villages with multivariate meta-regression.

**Project Write-Up:** “Dynamics of Cooperative Networks Associated with Gender Among South Indian Tamils.”

*Philosophical Transactions of the Royal Society: Biological Sciences.* [R Code: [https://github.com/cohensimpson/gendernet\\_PhilTransB](https://github.com/cohensimpson/gendernet_PhilTransB)]

**Project Write-Up:** “Social Support and Network Formation.” *Sci. Data.* [R Code: [https://github.com/cohensimpson/smallnet\\_ScientificData](https://github.com/cohensimpson/smallnet_ScientificData)]

- Flexibly collaborated with colleagues (cross-functional) to discuss, prioritise, and finish tasks regarding teaching, research, ethics, and hiring.
- Co-led R-based class on basic statistical inference (e.g.,  $p$ -values) – delivering weekly lectures + practicals to  $\approx 50$  students (MSc & PhD).
- Provided 1-to-1 advice on statistical modelling in weekly surgeries for students, working backwards from their needs (e.g., time efficiency).
- Evaluated work (i.e., exams, R code, theses) – tactfully communicating feedback to students with high anxiety about math and statistics.
- Supervised two MSc students (one-year degree) to completion – providing career mentorship, pastoral care, and research direction.

**Postdoctoral Researcher, University of Oxford** **Mar 2017 – Dec 2017**

- Led a project on police behaviour end-to-end – crafting the hypotheses and analytic strategy, and publishing results in a major journal.
- Cleaned two-years of structured data (numeric + text) on malfeasance and daily collaboration among 3,475 US police ( $\approx 1.2\text{m}$  cases).
- Independently analysed data on police malfeasance using repeated-events survival models (i.e., Cox Regression with Frailties).

**Project Write-Up:** “Is Police Misconduct Contagious?” *Journal of Quantitative Criminology.* [R Code: <https://osf.io/g93m7/>]

**Postdoctoral Research Assistant, University of Cambridge** **Feb 2016 – Dec 2017**

- Secured £337,789 in research project funding (10% Success Rate) from the British Academy (i.e., UK’s National Academy of Social Sciences).

## PERSONAL (P) INTERESTS + FAVOURITE APPLIED STATISTICS BOOKS (B)

**P:** Video Games (3rd-Person Action [Elden Ring]; Japanese RPGs); Weightlifting; Landscape Photography; Horror Podcasts; Orchestral Music.

**B:** “Regression and Other Stories” (Gelman et al., 2020); “An Introduction to Statistical Learning” (James et al., 2021).