

ERIC MARTIN FELTHAM

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EMPLOYMENT

Data Science Institute Postdoctoral Fellow

Sept. 2024 -

Columbia University

Postdoctoral Associate

June 2023 - Aug. 2024

Yale Institute for Network Science and Department of Sociology, Yale University

EDUCATION

Ph.D., Sociology, Yale University (with Distinction)

May 2023

Dissertation: “Cognizing Social Networks”

New Haven, CT

Committee: Drs. Nicholas Christakis (chair), Emily Erikson, Laura Forastiere, Ifat Levy

Winner of the 2024 Marvin B. Sussman Dissertation Prize from Yale University

M.A., Statistics, Yale University

2018

New Haven, CT

B.A., Philosophy; B.A., Economics, University of Massachusetts Amherst

2013

magna cum laude, Phi Beta Kappa

Amherst, MA

RESEARCH INTERESTS

Social theory, social networks, computational social science, mathematical sociology, social cognition, social psychology, political sociology, causal inference

PUBLICATIONS

Eric Feltham, Laura Forastiere, and Nicholas Christakis. “Cognitive representations of social networks in isolated villages”. *Nature Human Behaviour* (2025). <https://doi.org/10.1038/s41562-025-02221-6>

- Selected for a “Research Briefing” feature by *Nature Human Behaviour*. <https://doi.org/10.1038/s41562-025-02222-5>
- Featured in Phys.org (“Biases shape how people mentally represent social ties in their community, study suggests”, June 2025)

Eric Feltham, Laura Forastiere, Marcus Alexander, Nicholas Christakis. (2023). “Mass gatherings for political expression had no discernible association with the local course of the COVID-19 pandemic in the USA in 2020 and 2021”. *Nature Human Behavior*. <https://doi.org/10.1038/s41562-023-01654-1>

- Featured in *FiveThirtyEight*.

Emily Erikson and **Eric Feltham**. (2021). “Structure”. In *Research Handbook on Analytical Sociology*. Cheltenham, UK: Edward Elgar Publishing.

Emily Erikson and **Eric Feltham**. (2020). “Historical Network Research”. In *Oxford Handbook of Social Networks*. New York: Oxford UP. <https://doi.org/10.1093/oxfordhb/9780190251765.001.0001>

Philipp Homan, Ifat Levy, **Eric Feltham**, Charles Gordon, Jingchu Hu, Jian Li, Robert H. Pietrzak, Steven Southwick, John H. Krystal, Ilan Harpaz-Rotem, Daniela Schiller. (2019). “Neural computations of threat in the aftermath of combat trauma”. *Nature Neuroscience* 22, 470–476. <https://doi.org/10.1038/s41593-018-0315-x>

WORKING PAPERS

Eric Feltham and Nicholas Christakis. “Cognitive Expectations of Homophily in Village Social Networks”. (submission stage, available upon request)

Eric Feltham. “The social and cultural context of social network cognition”. (manuscript in prep.)

Eric Feltham. “TSCSMethods.jl: Extended Matching for Generalized Difference-in-Differences with Time-Series Cross-Sectional Data” (manuscript in prep)

Eric Feltham. “FormulaCompiler.jl: A Unified Typed Compilation Framework for Statistical Formulas” (manuscript in prep)

Eric Feltham “Positive Predictive Bias: A Simple Nonparametric Alternative to c in Signal Detection”. (research phase)

Eric Feltham, Nicholas Christakis, and Laura Forastiere. “Sampling Cognitive Social Structures”. (research phase)

Eric Feltham and Nicholas Christakis. “The Networked Climate Game”. (data collection phase)

Eric Feltham and Nicholas Christakis. “Risk Attitudes and Network Structure in Honduras”. (research phase)

Dominik Duell, **Eric Feltham**, Nicholas Christakis. “Revolutions *in silico*”. (data collection phase)

BOOK

“Cognizing social networks” (working title). Manuscript in preparation.

- Book proposal under review

OTHER WRITING

“Social network cognition among isolated villagers reveals distinct patterns of bias” **Nature Human Behaviour Research Briefing** (June 2025). (Invited contribution by Nature Human Behaviour)

Eric Feltham and Nicholas Christakis. (2023). “Rapid research with a pandemic bearing down: Studying the impact of mass gatherings on the course of COVID-19”. **Springer Nature Communities**. (Invited contribution to “Behind the Paper” series for the Springer Nature Social Sciences online community.)

Eric Feltham and Nicholas Christakis. (2020). “Voting In The 2020 Primaries Didn’t Worsen The COVID-19 Pandemic”. **FiveThirtyEight**.

INVITED TALKS

“Cognizing social networks”

- Department of Psychology, Harvard University (Cognition, Brain, Behavior Seminar), September 2025
- Department of Sociology, Yale University (Sussman Award Lecture), May 2025
- Department of Sociology, University of Iowa (Social Networks Workshop), Iowa City, IA, November 2023

“Modeling the Effect of Identity on Polarization”

- Center for Empirical Research on Stratification and Inequality, Yale University, January 2019

“Experiments on Observational Learning”

- Yale Institute for Network Science, August 2018

“Using Tools from Causal Inference to Reconstruct Simulated Social Data”

- DARPA Workshop, Alexandria, VA, 2018

CONFERENCE PRESENTATIONS

“Cognizing social networks”

- International Conference on Computational Social Science, Norrköping, Sweden, July 2025
- American Sociological Association (Sections on Social Psychology and Mathematical Sociology), Montréal, August 2024
- Duality@50: Making progress and looking forward, ETH Zürich, Ascona, Switzerland, April 2024
- Implementation and Dissemination Science Workshop, Copán, Honduras, June 2023

“Expecting Homophily”

- Annual Conference of the International Network of Analytical Sociology, Columbia University, June 2025

Megha Chawla, Philipp Homan, Charles Gordon, **Eric Feltham**, Daniela Schiller, Ilan Harpaz-Rotem, Ifat Levy. “**Cortical thickness and volume of the right posterior parietal cortex predict individual learning rate in healthy adults**”

- Society for Neuroscience, San Diego, CA, 2018

HONORS AND AWARDS

Sussman Prize for best dissertation in the past two years 2024

Yale Department of Sociology, New Haven, CT

Commonwealth Honors College Scholar with Greatest Distinction 2013

University of Massachusetts Amherst, Amherst, MA

- Awarded based on thesis quality and GPA

GRANTS

National Institutes of Health, The National Institute on Aging and the Office of Behavioral and Social Sciences Research 2022

Research Grant (R-01), “Characterizing Individuals’ Cognitive Maps of their Village Social Networks”

- Award: \$3,226,809 (over 4 years)
- PI: Dr. Nicholas Christakis
- Role: Researcher

Robert Wood Johnson Foundation 2020

“Assessing the Hazard of Elections During the COVID-19 Pandemic”

- Award: \$350,000
- PI: Dr. Nicholas Christakis
- Role: Researcher

RESEARCH EXPERIENCE

Graduate Researcher 2016 - 2023

Yale Institute for Network Science and Human Nature Lab, New Haven, CT

- Designed and led large scale data collection and analysis efforts on individuals’ perceptions of social network structure in 82 villages in rural Honduras
- Developed sampling method for cognitive social structures research design
- Conducted fieldwork in rural Honduras to support data collection and analysis effort for thesis project
- Developed generalized difference-in-differences methodology to estimate the impact of large-scale political gatherings on the spread of COVID-19 in the USA

Research Fellow 2019

Dr. Emily Erikson, Yale University, New Haven, CT

- Analyzed historical social network data consisting of English economic manuscript writers from the 18th century
- Applied topic modeling to uncover trends in the economic literature over a roughly 200-year period

Graduate Researcher 2018

Drs. James Evans, Michael Franklin, Joshua Tenenbaum, University of Chicago, Chicago, IL

- Part of a team on a grant “Social MIND: Social Machine Intelligence for Novel Discovery”

Research Assistant 2014 - 2016

Levy and Harpaz-Rotem Labs, Yale University School of Medicine, New Haven, CT

- Independently performed fear conditioning experiments with human participants in behavioral and MRI settings
- Preprocessed and analyzed fMRI data using BrainVoyager software

Research Assistant

2014

Schiller Affective Neuroscience Lab, Mount Sinai Icahn School of Medicine, New York, NY

- Independently performed human subject trials investigating the effects of a pharmacological agent on memory formation and persistence

Undergraduate Honors Thesis

2013

University of Massachusetts Amherst Commonwealth Honors College, Amherst, MA

- Title: “Unconscious Attention? Inattentional Consciousness? Examining the Relationship Between Attention and Phenomenal Consciousness”
- Committee: Drs. Joseph Levine and Louise Anthony

SOFTWARE

TSCSMethods.jl (sole author)

- Performs non-parametric generalized differences-in-differences estimation, with covariate matching

FormulaCompiler.jl (sole author)

- Provides a unified, typed compilation framework for statistical model formulas in Julia

Margins.jl (sole author)

- Computes marginal effects for generalized linear models and mixed models

SamplingPerceivedNetworks.jl (sole author)

- Implements a sampling procedure for “cognitive social structures” data collection

TEACHING

Teaching Fellow, Yale College, Yale University (2018–2023):

- SOCY 133a, Computers, Networks and Society (Fall 2018)
- SOCY 167b, Social Networks and Society (Spring 2019)
- SOCY 151a, Foundations of Modern Social Theory (Fall 2019)
- SOCY 126b, Health of the Public (Spring 2020)
- SOCY 134a, Sex and Gender in Society (Fall 2021)
- SOCY 152b, Topics in Contemporary Social Theory (Spring 2022)
- SOCY 126a, Health of the Public (Fall 2022)
- SOCY 141b, Sociology of Crime and Deviance (Spring 2023)

MENTORING

- Karen Gao (Computer Science & Psychology, Yale College 2027)
- Ashley Oaks (Statistics & Data Science, PhD)
- Breanna Nguyen (Cognitive Science, Yale College 2025)
- Kaity Chandrika (Sociology, Yale College 2025)
- Justice Harasha (Economics & Mathematics, Yale College 2024)
- Kayla Morgan (Cognitive Science, Yale College 2024)
- Benjamin Snyder (Economics, Yale College 2022)

SERVICE

AD HOC REVIEWS

- Proceedings of the National Academy of Sciences of the United States of America
- Risk Analysis
- Policy Analysis
- Group Processes & Intergroup Relations
- Rationality and Society
- Yale Undergraduate Research Journal

SKILLS

LANGUAGES

Julia, R, MATLAB, Python, Spanish (basic), French (basic)

SELECTED COURSEWORK

Theory of Statistics, Multivariate Statistical Analysis, Linear Models, Stochastic Processes, Computational Tools for Data Science, Research Design & Causal Inference, Social Network Analysis, Topics in Biosocial Science, The Microeconomics of Coordination and Conflict

LEADERSHIP & SERVICE

Campaign Coordinator

2010 - 2011

Students for a Just and Stable Future, Boston, MA

- Represented the organization at public events
- Built partnerships with community leaders and students across Massachusetts
- Contributed to climate policy development for MA state legislation

Team Leader

June 2010 - Aug. 2011

Better Future Project, Boston, MA

- Led and coordinated a four-member team across media, events, and housing
- Organized public events on the economic and environmental impacts of policy

REFERENCES

1. Dr. Peter Bearman, Cole Professor of Social Science in the Department of Sociology, Columbia University
 - psb17@columbia.edu
2. Dr. Nicholas Christakis, Sterling Professor of Social and Natural Science, Yale University
 - nicholas.christakis@yale.edu
3. Dr. Emily Erikson, Professor of Sociology and (by courtesy) Management, Yale University
 - emily.erikson@yale.edu
4. Dr. Laura Forastiere, Associate Professor of Biostatistics, Yale School of Public Health, Yale University
 - laura.forastiere@yale.edu
5. Dr. Ifat Levy, Associate Professor of Comparative Medicine, Neuroscience, and Psychology, Yale School of Medicine, Yale University
 - ifat.levy@yale.edu