

Matthew D. Simonson

PH.D. STUDENT · HARRY FRANK GUGGENHEIM FELLOW

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Summary

Brief Research Statement: As a conflict scholar and methodologist, I investigate the causes and dynamics of political violence through a network lens in order to prevent mass atrocities. My interdisciplinary Ph.D. program in Network Science has equipped me with a statistical & modeling toolkit drawn from political science, physics, computer science, sociology, and economics. To these, I add an extensive teaching history, fieldwork experience on three continents, and a passion for weaving together quantitative and qualitative approaches.

Research Interests: Network analysis; civil war & mass atrocities; causal inference; prejudice-reduction & peacebuilding interventions; protests; COVID-19 responses; experiments; conflict & gender

Teaching Capacity: Comparative Politics, International Relations (conflict-related), Quantitative Methods Sequence (all levels), Survey Design, Fieldwork Seminar, Qualitative Methods

References

Dr. David M. J. Lazer

NORTHEASTERN UNIVERSITY

- University Distinguished Professor of Political Science and Computer and Information Science
- Dissertation Advisor & Dissertation Committee Chair

617-329-1010

d.lazer@northeastern.edu

Dr. Dara Kay Cohen

HARVARD UNIVERSITY

- Ford Foundation Associate Professor, Harvard Kennedy School
- Mentor & Former Instructor

617-495-7838

dara_cohen@hks.harvard.edu

Dr. Laia Balcells

GEORGETOWN UNIVERSITY

- Provost's Distinguished Associate Professor, Department of Government
- Dissertation Committee Member

202-687-3712

laia.balcells@georgetown.edu

Dr. Jennifer M. Larson

VANDERBILT UNIVERSITY

- Associate Professor, Department of Political Science
- Dissertation Committee Member

615-322-6240

jennifer.larson@vanderbilt.edu

Education

Northeastern University

PH.D. NETWORK SCIENCE

- Dissertation: Network Dimensions of Ethnic Conflict & Political Violence (4 papers)

Boston, MA, USA

Expected June 2021

Williams College

B.A. WITH HONORS, *cum laude*

- Major: Mathematics & Statistics
- Concentration: International Studies
- Honors thesis advisor: Dr. Frank Morgan

Williamstown, MA, USA

2008

Fellowships and Teaching Experience

- 2020-1 **Harry Frank Guggenheim Foundation Fellow**, New York, NY, USA (remote)
2020-Pres. **Research Assistant**, The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States
Spr. 2020 **Data Science Instructor***, New College of the Humanities, London, UK
Fall 2019 **Graduate Teaching Assistant for "Social Networks"**, Northeastern University
2018-9 **Post-Conflict Research Centre Fellow**, Sarajevo, Bosnia & Herzegovina
2016-9 **National Defense Science and Engineering Graduate Fellow**, U.S. Department of Defense (remote)
2015-6 **NULab for Texts, Maps, and Networks Fellow**, Northeastern University
2010-5 **High School Mathematics Teacher, Dorm Parent, Head Track & Field Coach**, Milton Academy, Boston, MA
2009-10 **High School Mathematics & Social Studies Teacher**, The Siena School, Silver Spring, MD, USA
2008-9 **High School Mathematics Teacher**, Durham Academy, Durham, NC, USA

*Created new curriculum: "Data Science Skills for Social Scientists" (see [course website](#))

Dissertation

JOB MARKET PAPER/BOOK PROJECT

Shoot a Stranger, Save a Neighbor: Civilian & Combatant Networks Under Fire Do cross-group ties cease to matter during episodes of civil war and communal violence? By expanding the narrow concept of rescue to include any helpful act that runs contrary to the conflict cleavage and going beyond the two genocides that dominate the rescue literature, I demonstrate that cross-group networks are not only resilient but highly effective at shaping behavior in times of violence. After surveying survivors of the 1992-5 Bosnian conflict—the first nationwide survey on wartime rescue in a post-conflict state—I find that cross-group assistance was both widespread and strongly correlated with respondents having more cross-group ties. Yet surprisingly, the strength of those ties does not appear to have had much impact. Most people, it seems, were willing to help not only friends but even friends-of-friends and acquaintances. Drawing on 160 new interviews with helpers and recipients, I show how networks activate cross-group social capital to channel aid to those in need. To address problems in recall bias and demand effects, I validate these findings with three novel data sources: a long-overlooked 1990 census table that disaggregates intermarriage rates by municipality, a newly-completed database covering over 96% of wartime fatalities, and over 130 oral histories collected by multiple local researchers during and after the war. Together, these sources provide compelling evidence for a model that explains how networks and the cross-group social capital they activate push people to save lives, perform everyday acts of kindness, and take up arms against their own group.

UNDER REVIEW

Do Terrorist Attacks Always Affect Political Attitudes and Participation? (with William Minozzi, Michael A. Neblo, David M. J. Lazer) Terrorists target an audience beyond their victims, and many scholars claim that terrorism often succeeds in shifting public opinion and behavior. People exposed to violence are said to exhibit a backlash against the perpetrator's identity group, a rightward political shift, and heightened political engagement. We test these theories through a mixed-methods analysis of a natural experiment: during a multiyear panel survey on young Americans' political opinions and behavior, a subset of respondents experienced a terrorist attack in their community. Difference-in-differences estimates show no meaningful causal effects on terror-exposed respondents. Furthermore, field interviews suggest that these individuals did not interpret this emotionally-jarring attack through a political lens, despite their own interest in politics and political leaders framing the attack in a highly politicized way. Our results call into question the scope of existing theories, suggesting that even close encounters with terrorism can fail to sway public opinion.

IN PREPARATION

Beyond SUTVA: Quasi-Experiments on Networks Recent advances in causal inference have opened a new chapter in network research. The first wave of this research was observational Christakis and Fowler (2007), while a more recent wave has focused on experiments (see Aronow et al. 2020). We argue the field is ripe for a third wave that adapts these newer experimental methods to quasi-experimental contexts. Each year, thousands of studies employ panel studies, regression discontinuities, and instrumental variables to tease out causality, yet few of them examine networks. This deficit stems not only from the inherent difficulties in causal estimation in with spillover but also the mystifying stew of notations and terminologies that have evolved in different fields. To that end, we start by placing these new network inference approaches in a common language and apply them to prior quasi-experimental studies to show how they can be applied outside of an experiment. We employ simulations and sensitivity analysis to evaluate their robustness

to minor violations of key assumptions. Finally, we call attention to areas where we believe lie the greatest possibility and demand for methodological progress.

Stuck in the Mud: Roads, Rain and Repression (with Carl Müller-Crepon, and Philipp Hunziker) A substantial body of literature claims that civil wars break out where states are too weak to enforce their monopoly of violence. Yet, the measurement of state capacity remains elusive, especially on the sub-national level. Furthermore, existing research is unable to distinguish between the short-term consequences of state reach, in particular, the capacity to repress, and its long-term effects, such as stronger institutions and national identity. Addressing these weaknesses, this paper attempts to isolate the impact of short-term variation in state capacity. It does so by focusing on the effect of quasi-random variation in states' coercive capacity on local outbreaks of political violence in Africa. Our research design builds on the observation that physical accessibility, primarily via roads, is a necessary condition for effective state control and repression. Following this logic, we exploit weather-induced variation in traveling times from regional headquarters into the periphery to estimate the effect of short-term interruptions to state control on the likelihood of political violence. In other words, we use unexpected interruptions in accessibility caused by heavy rain on bad roads as quasi-random treatments that temporarily suspend the state's ability to repress insurrections in peripheral areas. We measure interruptions in accessibility by combining newly collected data on the location and quality of African roads with high-resolution weather data, allowing us to calculate sudden changes in traveling times on a fine-grained level. Based on this measurement strategy, we analyze whether African districts that are temporarily inaccessible see higher levels of political violence, while controlling for country-level variations in violence, as well as expected weather patterns. Evidence in support of our expectations would suggest that physical access of state forces to outlying regions is a key mechanism by which state reach reduces violence. Based on our results, we expect to be able to highlight those parts of the African road network where improvements would foster state reach the most.

Other Works

PUBLISHED

Simonson, M. "**The Isoperimetric Problem on Euclidean, Spherical, and Hyperbolic Surfaces.**" *Journal of the Korean Mathematical Society* 48, no. 6 (2011): 1285-1325.

UNDER REVIEW

The Role of Race, Religion, and Partisanship in Misinformation about COVID-19 (with James Druckman, Matthew A. Baum, et al.)

IN PREPARATION

Black Networks Matter (lead author with David Lazer, James Druckman, et al.)

Risk Factors for Intrahousehold Transmission of SARS-CoV-2 (lead author with Jon Green, Mauricillo Santillana, et al.)

Neuropsychiatric symptoms following acute COVID-19 illness (with Roy Perlis, Katya Ognyanova, et al.)

Awards, Fellowships, & Grants

- **Margaret Ross Barnett Fund & James Bryce Fund for International Political Science** Centennial Center Grant, APSA, 2020
- **Harry Frank Guggenheim Fellowship**, 2020
- **APSA Conflict Processes Section Conference Grant**, 2019
- **National Defense Science and Engineering Graduate Fellowship**, a highly competitive U.S. Department of Defense fellowship full funding three years of graduate school tuition and stipend, 2016-2019
- **Olympia Summer Academy Merit Scholarship**, 2018
- **Graduate Thesis/Dissertation Research Grant**, Awarded by Northeastern University Provost's Office and College of Science, 2017-8
- **Brudnick Center on Violence and Conflict Student Research Grant**, 2017-8
- **Political Networks Conference Travel Grant**, 2019 and 2017

- **NSF Graduate Research Fellowship** Honorable Mention, 2016
- **Kathryn Davis Fellowship for Peace** winner, 2016
- **Greatest Impact Award at "Hack Trafficking for Good,"** a hackathon aimed at disrupting sex trafficking, 2016
- **Seed Grant from NULab for Texts, Maps, and Networks** for "Mapping Water Access and Conflict in Kampala, Uganda", May 2016
- **Seed Grant from NULab for Texts, Maps, and Networks** for "When Women go to War", October 2016
- **Innovation Fund Grant Winner*** from Milton Academy, 2014
- **Sigma Xi Scientific Honors Society Inductee**, 2008
- **Honors awarded for thesis in mathematics & statistics**, Williams College, 2008
- **Dean's List**, Williams College, Spring 2005–Spring 2008

*To develop new course: "Math, Politics, and Society" (curriculum available upon request)

Presentations

1. Peace Science Conference
 - 2020 (accepted) - "Shoot a Stranger, Save a Neighbor" paper
2. American Political Science Association Annual Meeting
 - 2017 - "Stuck in the Mud" paper
 - 2019 - "Shoot a Stranger, Save a Neighbor" paper
 - 2020 - "Shoot a Stranger, Save a Neighbor" paper, "Black Networks Matter" paper, "The Role of Race... COVID-19" paper, "Do Terrorist Attacks..." poster
3. Sunbelt COVID-19 Satellite Conference
 - 2020 - "Risk Factors for ... COVID-19" paper
4. Harvard-MIT-Tufts-Yale Political Violence Conference
 - 2020 - "Shoot a Stranger, Save a Neighbor" paper
5. Political Networks Conference (Polnet)
 - 2017 - "Stuck in the Mud" paper
 - 2018 - "Stuck in the Mud" paper
 - 2019 - "Shoot a Stranger, Save a Neighbor" paper
 - 2020 - organized a panel on networks and conflict (conference cancelled)
6. International Studies Association Northeast Region Meeting
 - 2017 - "Squash or Scatter? How Resistance Groups Morph Under Government Pressure" paper
7. NULab Conference
 - 2017 - "Interethnic Friendship Formation in an Urban Slum" paper

Fieldwork

2018-9	Bosnia & Herzegovina , interviews and survey on cross-group assistance during civil war and mass atrocities	10 months
2017	Cameroon , exploratory interviews on Anglophone–Francophone conflict and emerging violence	1 month
2016	Uganda , social network survey on inter-tribal friendship formation in urban slums and interviews with female former “kadogos” (child soldiers/revolutionary youth)	2 months
2007	Mongolia , survey, interviews, participant observation on local political participation among nomadic herders	4 months

Technical Skills

Programming & Statistics

R	Python	SPSS	Stan
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Network Analysis

NetworkX	igraph	NodeXL	Gephi
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Survey Design & Implementation

Qualtrics	KoboToolbox	SurveyToGo	PureSpectrum
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Visualization & Typesetting

LaTeX	Matplotlib	ggplot	Lucid Chart
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Web Design

Wix	WordPress	Shiny	
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Cloud Computing & Web Scraping

Google Cloud Platform	Twitter API	Beautiful Soup	Selenium
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Miscellaneous

GitHub	Unix Command Line	rsync	
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Service & Professional Development

TRAINING

2020	MAXQDA Conference , two-day training workshop on qualitative data analysis	Berlin, Germany
2018-9	Bosnian/Serbian/Croatian Courses - A2, B1, B2 levels , Lingvisti Language and Culture Center	Sarajevo, Bosnia
2018	Olympia Summer Academy , two-week workshop on conflict and politic violence led by Stathis Kalyvas	Nafplio, Greece
2018	University of Essex Summer School in Social Science Data Analysis , Applied Research with Marginal and Hidden Populations	Colchester, UK
2017	Evaluation of Peacebuilding and International Development , Tufts Fletcher School of International Law & Diplomacy (unofficial audit)	Boston, MA
2018	Summer School in Survey Methodology , Leibniz Institute for Social Research (GESIS)	Cologne, Germany
2016-9	ERGMs, TERGMs, GERGMs, Latent Space, Social Relations Model workshops , Political Networks Conference (Polnet)	Various
2016-9	Process Tracing, Causal Case Studies, and Fieldwork workshops , APSA Qualitative and Multi-Method Research section	Various

SERVICE

- 2020 **Panel Chair**, APSA Annual Meeting
- 2019 **Peer Reviewer**, Behavioural Public Policy
- 2018-20 **Conference Organizer and Panel Chair**, Politics & Computational Social Science
- 2017-8 **Co-Founder and Organizer**, Boston International Security Graduate Conference
- 2017, 2020 **Instructor**, Network Science Bootcamp
- 2016-pres. **Guest Lecturer for A.P. Comparative Government and Politics**, Georgetown Day School
- 2015-6 **Editor-in-Chief**, American Mathematical Society Graduate Student Blog

SEMINAR & WORKSHOP PARTICIPATION

- 2020-pres. **Intergroup Relations Working Group**, Online
- 2017-pres. **Security Studies Working Group**, Massachusetts Institute of Technology
- 2017-8 **Security Working Group**, Northeastern University
- 2016-pres. **Political Violence Workshop**, Harvard University
- 2016-pres. **Harvard-MIT-Yale-Tufts Political Violence Conference**, Various Locations

PROFESSIONAL MEMBERSHIPS

- American Political Science Association
- International Studies Association
- Midwest Political Science Association
- Peace Science Society

Foreign Languages

Hebrew: Proficient

Spanish: Proficient

Bosnian/Serbian/Croatian: Intermediate