

# Cassie McMillan

Northeastern University  
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## Appointments **Northeastern University**

Assistant Professor of Sociology and Criminology & Criminal Justice, 2020 –  
Core Faculty, NULab for Texts, Maps and Networks, 2020 –  
Affiliated Faculty, Network Science Institute, 2020 –  
Faculty Scholar, Institute for Health Equity and Social Justice Research, 2022 –

## Education **Pennsylvania State University**

Ph.D., Sociology and Demography, 2020

- Outstanding Dissertation in Progress Award, Mathematical Sociology Section, American Sociological Association, 2019

Minor in Social Data Analytics  
M.A., Sociology and Demography, 2016

## **University of North Carolina-Chapel Hill**

B.S., Sociology and Mathematical Decision Sciences (Statistics), 2013

## Publications

### *Journal Articles*

\*graduate student co-author; †equal authorship

Freelin, Brittany N.\*, **Cassie McMillan**, Diane Felmlee, and D. Wayne Os-good. Forthcoming. “Changing Contexts: A Quasi-Experiment Examining Adolescent Delinquency and the Transition to High School.” *Criminology*.

**McMillan, Cassie**. Forthcoming. “Who Run the World? Gender and the Social Network of R&B/Hip Hop Collaboration from 2012-2020.” *Applied Network Science*. [[github](#)]

Corradi, Andrea\*, **Cassie McMillan**, and Nick Dietrich. 2022. “A Hostile Reputation: A Social Network Approach to Interstate Hostility.” *Social Networks* 71:61-69. [[article](#)] [[github](#)]

**McMillan, Cassie**, Derek Kreager, and René Veenstra. 2022. “Keeping to the Code: How Local Norms of Friendship and Dating Inform Macro-Structures of Adolescents’ Romantic Networks.” *Social Networks* 70:126-137. [[article](#)]

**McMillan, Cassie**, Diane Felmlee, and James R. Ashford\*. 2022. “Reciprocity, Transitivity, and Skew: Comparing Local Structure in 40 Positive and Negative Social Networks.” *PLOS ONE* 17(5):e0267886. [[article](#)]

**McMillan, Cassie**. 2022. “Worth the Weight: Conceptualizing and Measuring Strong versus Weak Tie Homophily.” *Social Networks* 68:139-147. [[article](#)] [[github](#)]

**McMillan, Cassie** and David R. Schaefer. 2021. “Comparing Targeting Strategies for Network-Based Adolescent Drinking Interventions: A Simulation Approach.” *Social Science & Medicine* 282:114136. [\[article\]](#)

Felmlee, Diane, **Cassie McMillan**, and Roger Whitaker. 2021. “Dyads, Triads, and Tetrads: A Multivariate Simulation Approach to Uncovering Network Motifs in Social Graphs.” *Applied Network Science* 6(63). [\[article\]](#)

- Distributed Analytics and Information Sciences (DAIS) Award for Best Interdisciplinary Collaboration and Advanced Science, 2021

Faris, Robert, Diane Felmlee, and **Cassie McMillan**. 2020. “With Friends Like These: Aggression from Amity and Equivalence.” *American Journal of Sociology* 126(3):673-713. [\[article\]](#)

- Roger V. Gould Prize for Outstanding Article Published in *American Journal of Sociology*, 2022
- Featured in “Bullies aren’t all sociopaths” *Salon*

**McMillan, Cassie** and Diane Felmlee. 2020. “Beyond Dyads and Triads: A Comparison of Tetrad Motifs in 20 Social Networks.” *Social Psychology Quarterly* 83(4):383-404. [\[article\]](#)

**McMillan, Cassie**, Diane Felmlee, and Dave Braines. 2020. “Dynamic Patterns of Terrorist Networks: Security versus Efficiency in the Evolution of Eleven Islamic Extremist Attack Networks.” *Journal of Quantitative Criminology* 36:559-581. [\[article\]](#)

**McMillan, Cassie**. 2019. “Tied Together: Adolescent Friendship Networks, Immigrant Status, and Health Outcomes.” *Demography* 56(3):1075-1103. [\[article\]](#)

- Graduate Student Paper Award, Honorable Mention, Inequality, Poverty, and Mobility Section, American Sociological Association, 2019

**McMillan, Cassie**, Diane Felmlee, and D. Wayne Osgood. 2018. “Peer Influence, Friend Selection, and Gender: How Network Processes Shape Adolescent Smoking, Drinking, and Delinquency.” *Social Networks* 55:86-96. [\[article\]](#)

Felmlee, Diane, **Cassie McMillan**, Paulina Inara Rodis\*, and D. Wayne Osgood. 2018. “Falling Behind: Lingering Costs of the High School Transition for Youth Friendships and Grades.” *Sociology of Education* 91(2):159-182. [\[article\]](#)

### *Conference Proceedings*

Felmlee, Diane, Dave Braines, Roger Whitaker **Cassie McMillan**, Chris Julien\*, and Cheryl Giammanco. 2021. “From Social Networks to Negative Ties: Refining Analysis for Conflict and Adversarial Interaction.” In *SPIE Defense + Commercial Sensing, 2021*. [\[link\]](#)

Felmlee, Diane, Emil C. Lupu, **Cassie McMillan**, Erisa Karafili, and Elisa Bertino. 2017. “Decision-Making in Policy Governed Human-Autonomous System Teams.” In *IEEE Smart World Congress 2017*. [\[link\]](#)

### ***Book Chapters***

Sun, Xiaoran†, and **Cassie McMillan**†. 2018. “Interplay between Families and Technology: Future Investigations.” Pp. 177-187 in *Families and Technology*, edited by J. Van Hook, S. McHale, and V. King. Cham, Switzerland: Springer. [\[link\]](#)

Felmlee, Diane, **Cassie McMillan**, Paulina Inara Rodis\*, and D. Wayne Osgood. 2018. “The Evolution of Youth Friendships from 6th through 12th Grade: School Transitions, Popularity, and Centrality.” Pp. 161-84 in *The Life Course and Social Networks*, edited by D. F. Alwin, D. H. Felmlee, and D. A. Kreager. Cham, Switzerland: Springer. [\[link\]](#)

### Manuscripts ***Under Review***

**McMillan, Cassie**. “Strong and Weak Tie Homophily in Adolescent Friendship: An Analysis of Same-Race and Same-Gender Ties.” *Revise & Resubmit*

**McMillan, Cassie**, Brandon Craig\*, Chaïm La Roi, and René Veenstra. “Adolescent Friendship, Cross-Sexuality Ties, and Attitudes Toward Sexual Minorities: A Social Network Approach to Intergroup Contact.”

**McMillan, Cassie** and Brittany N. Freelin\*. “School Transitions, Peer Processes, and Delinquency: A Social Network Approach to Turning Points in Adolescence.”

### ***In Progress***

**McMillan, Cassie**. “Connecting the Dots: Using Social Network Analysis to Untangle the Factors Driving International Migration.”

Osgood, D. Wayne and **Cassie McMillan**. “Influenced by How Many Friends? A Pervasive Methodological Artifact and How to Solve It.”

**McMillan, Cassie**, Daniel Ragan, and Alana Colindres\*. “Variations in Network Processes across Community and School District Contexts” Book chapter in preparation for *Teen Friendship Networks, Development, and Risky Behaviors*, edited by M. E. Feinberg and D. W. Osgood. Oxford University Press.

### Awards and Fellowships

**Roger V. Gould Prize**, Outstanding Publication in *American Journal of Sociology*, 2022.

**NULab Seed Grant Recipient**, NULab for Texts, Maps and Networks, Northeastern University, 2021.

**Award for Best Interdisciplinary Collaboration and Advanced Science**, Distributed Analytics and Information Sciences (DAIS), 2021.

**Outstanding Dissertation in Progress Award**, Mathematical Sociology Section, American Sociological Association, 2019.

**Outstanding Graduate Student Paper Award, Honorable Mention**, Inequality, Poverty, and Mobility Section, American Sociological Association, 2019.

**P.E.O. Scholar Award**, International Chapter of the P.E.O., 2019-2020.

**Sociology Graduate Student Paper Award**, Published Paper Category, Pennsylvania State University, 2019.

**Alan Booth Graduate Student Award**, Pennsylvania State University, 2019.

**Sheila Burkett and Douglas T. Noakes Graduate Fellowship**, College of Liberal Arts, Pennsylvania State University, 2018-2019.

**Alan Booth Graduate Student Award, Honorable Mention**, Pennsylvania State University, 2018.

**Big Data Social Science IGERT Traineeship**, Pennsylvania State University, 2015-2018.

**Population Association of America (PAA) Poster Award**, Annual Meeting of the PAA, Chicago, IL, 2017.

**Sociology Graduate Student Paper Award, Honorable Mention**, Working Paper Category, Pennsylvania State University, 2017.

**Herbert J. Bailey Endowed Graduate Fellowship**, Pennsylvania State University, 2015-2017.

**Huber Form Scholarship**, Pennsylvania State University, 2014.

**SECU People Helping People Scholarship**, State Employees Credit Union, North Carolina, 2009-2013.

## Presentations *Invited Talks and Workshops*

- 2022 “Time Heterogeneity in Stochastic Actor-Oriented Models.” Social Networks & Health Workshop, Duke Network Analysis Center, Duke University.
- 2021 “Stochastic Actor-Oriented Model Advanced Techniques I: Asymmetric Peer Influence and Simulations” (with David Schaefer). Social Networks & Health Workshop, Duke Network Analysis Center, Duke University. [\[link to video\]](#)
- 2020 “Comparing Targeting Strategies for Network-Based Health Interventions: A Simulation Approach.” Department of Sociology, University of South Carolina.
- 2019 “Connecting the Dots: Using Social Network Analysis to Untangle the Factors Driving International Migration.” Population Research Institute Brown Bag, Pennsylvania State University.
- “Variations in Peer Influence and Friend Selection: Implications for Network-Based Prevention Campaigns.” Edna Bennett Pierce Prevention Research Center, Pennsylvania State University.

## *Conference Presentations*

- 2022 **McMillan, Cassie**, Brittany Freelin, and Mark Feinberg. “School transitions, peer processes, and adolescent delinquency: A social network approach to turning points in adolescence.” Accepted for presentation at the annual meeting of the American Sociological Association, Los Angeles, CA.

**McMillan, Cassie**, Brandon Craig, Chaïm La Roi, and René Veenstra. "Adolescent friendship, cross-sexuality ties, and attitudes toward sexual minorities: A social network perspective of intergroup contact." Accepted for presentation at the annual meeting of the ASA, Los Angeles, CA.

**McMillan, Cassie**, Brandon Craig, Chaïm La Roi, and René Veenstra. "Adolescent friendship, cross-sexuality ties, and attitudes toward sexual minorities: A social network perspective of intergroup contact." Presented at the INSNA Sunbelt Social Networks Conference, Cairns, Australia.

2021 **McMillan, Cassie**, Diane Felmlee, and James Ashford. "Local Structures in Positive and Negative Social Networks: A Comparison of 40 Graphs." Paper presented at the annual meeting of the American Sociological Association, Chicago, IL (virtual).

**McMillan, Cassie**. "Strong and Weak Tie Homophily in Adolescent Friendship: An Analysis of Same-Race and Same-Gender Ties." Roundtable session at the annual meeting of the American Sociological Association, Chicago, IL (virtual).

**McMillan, Cassie**, Brittany Freelin, and Alana Colindres. "Moving on up: How social networks and school transitions shape adolescent delinquency." Paper presented at the annual meeting of the American Society of Criminology, Chicago, IL.

Freelin, Brittany N., **Cassie McMillan**, Diane Felmlee, and D. Wayne Osgood. "Changing Contexts: A Quasi-Experiment Adolescent Delinquency and the Transition to High School." Paper presented at the annual meeting of the American Society of Criminology, Chicago, IL.

**McMillan, Cassie**, Diane Felmlee, James Ashford, and Chris Julien. "A Comparison of Local Structure in Positive and Negative Social Networks." Poster presented at the Networks conference Washington, DC (virtual).

2020 Freelin, Brittany N., **Cassie McMillan**, Diane Felmlee, and D. Wayne Osgood. "Changing Contexts: A Quasi-Experiment Adolescent Delinquency and the Transition to High School." Roundtable session at the annual meeting of the American Sociological Association, San Francisco, CA (virtual).

**McMillan, Cassie**. "Connecting the Dots: A Social Network Perspective to International Migration." Presented at INSNA Sunbelt Social Networks Conference, Paris, France (virtual).

**McMillan, Cassie**, Diane Felmlee, and James R. Ashford. "A Comparison of Local Structure in Positive and Negative Social Networks." Accepted for presentation at the annual meeting of the American Society of Criminology (cancelled due to COVID-19).

2019 Osgood, D. Wayne and **Cassie McMillan**. "Influenced by How Many Friends? A Pervasive Methodological Artifact and How to Solve It." Presented at the annual meeting of the American Society of Criminology, San Francisco.

**McMillan, Cassie**. "Worth the Weight: Conceptualizing and Measuring Homophily in Weighted Social Networks." Paper presented at the annual meeting of the American Sociological Association, New York, NY.

**McMillan, Cassie** and Sarah Miller. "Connecting the Dots: A Social Network Perspective to International Migration." Roundtable session at the annual meeting of the American Sociological Association, New York, NY.

**McMillan, Cassie.** "Worth the Weight: Conceptualizing and Measuring Homophily in Weighted Social Networks." Paper presented at the INSNA Sunbelt Social Networks Conference, Montreal, QC.

**McMillan, Cassie** and Diane Felmlee. "Beyond Dyads and Triads: A Comparison of Tetrad Motifs across 20 Social Networks." Paper presented at the INSNA Sunbelt Social Networks Conference, Montreal, QC.

**McMillan, Cassie.** "Connecting the Dots: Using Social Network Analysis to Untangle the Factors Driving International Migration." Paper presented at the annual meeting of the Population Association of America, Austin, TX.

**McMillan, Cassie,** Diane Felmlee, and Dave Braines. "Tetrad Motifs: A Comparison of Local Structures in 20 Social Networks." Poster presented at the annual meeting of the Population Association of America, Austin, TX.

2018 Felmlee, Diane, **Cassie McMillan,** Don Towsley, and Roger Whitaker. "Social Network Motifs: A Comparison of Social Groups." Paper presented at the annual meeting of the American Sociological Association, Philadelphia, PA.

**McMillan, Cassie** and David R. Schaefer. "Network-Based Prevention Campaigns: A Simulation Approach." Paper presented at the INSNA Sunbelt Social Networks Conference, Utrecht, Netherlands.

Felmlee, Diane, **Cassie McMillan,** Don Towsley, and Roger Whitaker. "Common Subgraphs in Social Networks: A Comparison of Motifs." Paper presented at the INSNA Sunbelt Social Networks Conference, Utrecht, Netherlands.

2017 **McMillan, Cassie,** Diane Felmlee, Roger Whitaker, and Dinesh Verma. "Dynamic Patterns of Terrorist Networks: A Comparison of Common Structures among Terrorist Group Ties." Paper presented at the annual meeting of the American Society of Criminology, Philadelphia, PA.

Faris, Robert, Diane Felmlee, and **Cassie McMillan.** "With Friends Like These: Aggression, Friendship, and Structural Equivalence." Paper presented at the annual meeting of the American Sociological Association, Montreal, QC.

Felmlee, Diane, **Cassie McMillan,** Paulina Inara Rodis, and D. Wayne Osgood. "School Transitions: Effects of Youth Friendship Networks and GPA from 6th to 12th Grade." Roundtable session at the annual meeting of the American Sociological Association, Montreal, QC.

Faris, Robert, Diane Felmlee, and **Cassie McMillan.** "With Friends Like These: Aggression from Equivalence and Amity." Paper presented at the North American Social Networks Conference of the International Network for Social Network Analysis, Washington, DC.

**McMillan, Cassie.** "Homophily on Immigrant Generation Status: How do Adolescent Friendships Relate to Immigrant Assimilation?" Paper presented at the annual meeting of the Population Association of America, Chicago, IL.

Felmlee, Diane, **Cassie McMillan**, Paulina Inara Rodis, and D. Wayne Osgood. "Falling off Track: The Negative Impact of School Transitions on Youth Friendship Networks and GPA from Sixth through Twelfth Grade." Poster presented at the annual meeting of the Population Association of America, Chicago, IL.

- Recipient of PAA Poster Award.

2016 **McMillan, Cassie**. "Gender Differences in Peer Influence and Friend Selection for Adolescent Delinquency, Drinking, and Smoking." Roundtable session at the annual meeting of the American Sociological Association, Seattle, WA.

**McMillan, Cassie**. "Gender Differences in Friend Selection and Peer Influence: Applying a Dynamic Network Approach to Study Adolescent Problem Behavior." Paper presented at the INSNA Sunbelt Social Networks Conference, Newport Beach, CA.

**McMillan, Cassie**, Clio Andris, James O'Dwyer, and Jeremy Van Cleve. "Geocomputational Methods for Modeling Dyadic Relationships in an Urban Context." Paper presented at annual meeting of the American Association of Geographers, San Francisco, CA.

## Teaching

### **Northeastern University**

CRIM 5900: Youth Crime, Gangs, and Networks (Fall 2022, Fall 2021)

INSH 1500: Digital Methods for Social Sciences and Humanities (Fall 2020)

INSH 5304: Social Network Analysis (Spring 2022, Spring 2021)

SOCL 1101: Introduction to Sociology (Fall 2022, Fall 2021, Spring 2021, Fall 2020)

### **Pennsylvania State University**

SOC 580: Social Network Analysis, Lab Instructor (Fall 2019)

SOC 207: Research Methods in Sociology (Summer 2019)

SOC 001: Introduction to Sociology (Summer 2018)

### **Online Class Reviewer, Penn State World Campus**

APDEM 806: Applied Demography and Health (2017)

## Advising

### **PhD Advises**

Brandon Craig, SCCJ (In Progress - Dissertation Committee Member)

Callie Hanson, SCCJ (In Progress - Qualifying Exam Committee Member)

Kevin Ha, Sociology (2022 - Field Statement Committee Member)

Matthew Simonson, Network Science (2021 - Dissertation Committee Member)

### **Undergraduate Advises**

Jenn Hong, Sociology (2022 - Honors Thesis Adviser)

## Service

### **Departmental Service**

Merit Review Committee, Sociology and Anthropology Department, Northeastern University, 2022.

Undergraduate Committee, Sociology and Anthropology Department, Northeastern University, 2020-present.

Graduate Committee, School of Criminology and Criminal Justice, Northeastern University, 2020-present.

Faculty Search Committee, Student Representative, Department of Sociology and Criminology, Pennsylvania State University, 2018-2019.

Peer Mentor, Demography Graduate Program, Pennsylvania State University, 2018-2019.

Graduate Recruitment Committee, Department of Sociology and Criminology, Pennsylvania State University, 2014-2019. *Committee Chair 2017-2018.*

Graduate Student Concerns Committee, Department of Sociology and Criminology, Pennsylvania State University, 2015-2020.

Social Committee, Department of Sociology and Criminology, Pennsylvania State University, 2014-2018. *Committee Co-Chair 2017-2018.*

### **Service to the Discipline**

Council Member, Mathematical Sociology Section, American Sociological Association, 2022-2025.

Committee on Nominations, Mathematical Sociology Section, American Sociological Association, 2019-2020.

Student Representative, Mathematical Sociology Section, American Sociological Association, 2018-2019.

Ad hoc reviewer for *American Sociological Review*, *Connections*, *Demography*, *Ethnic and Racial Studies*, *Journal of Gender Studies*, *Journal of Health and Social Behavior*, National Science Foundation, *PLOS ONE*, *Social Forces*, *Social Network Analysis and Mining*, *Social Networks*, *Social Problems*, *Social Psychology Quarterly*, *Social Science & Medicine*, *Social Science & Medicine: Population Health*, *Sociological Focus*, and *Youth & Society*.

### **Professional Memberships**

American Sociological Association (ASA)

American Society of Criminology (ASC)

International Network for Social Network Analysis (INSNA)