



UNIVERSITY
OF OREGON

Social Network Analysis

Sociology 613

T 9:00-11:50, 714 PLC

Spring 2018

Ryan Light

Email: light@uoregon.edu

Office Hours: F 11-1 and by appointment (632 PLC)

Overview:

This course explores the foundations of social network analysis. Social network analysis (SNA) is motivated by the understanding that social actors do not live in a relational vacuum, but are interdependent upon one another. In SNA we turn to the relations that bind people together moving from simple dyadic relationships (i.e. mother-daughter) to infinitely more complex structures involving thousands of actors, organizations, and so forth. SNA is a technique derived from theory; therefore, we will attend to the theoretical underpinnings of SNA and the questions that these theories address: how does material, such as disease or ideas, flow through our networks, how is social power generated and maintained, how do our social relations influence what we do and even how we think, and many more. Moving beyond theory, we will spend a significant amount of time thinking about the methods that help us answer these types of questions from simple visualizations (i.e. family trees) to statistical models of networks.

Learning objectives: By the end of the course, you should (1) know the major theoretical ideas supporting network research, (2) be able to collect social network data and, (3) be able to analyze and interpret social network data.

Requirements:

The main requirement of this seminar is a *research paper* (about 5,000 words) that uses the methods or ideas of social network analysis. This may be a revision of previous work (an MA paper, another course paper, etc.) or a new paper. If this is a revision of a previous paper, you need to show that the addition of network ideas or methods significantly contributes to the revision. You may collaborate with up to 2 other students (3-authors total) on your final paper. This paper is due on **June 13th at 5 pm**. The second requirement for the class is *a set of homework assignments* designed to build familiarity with analyzing networks in R. Assignments are due on the next Monday at noon (so an assignment listed on class 2 (April 3rd) is due on Monday, April 9th) and can be completed in groups. **Article presentations:** You are required to present one reading from the syllabus between weeks 3-10. **Attendance at two talks:** You are tasked with attending two academic talks in any department and write a brief paragraph describing a network component or a missing opportunity to discuss/collect data/analyze networks. Finally, since this is a seminar, *in-class participation is necessary*.

Distribution:

Research Paper: 40%

Homework Sets: 25%

In-class Participation: 20%

Article Presentation: 10%

Attendance at 2 talks: 5%

Texts:

Kadushin, Charles. 2011. *Understanding Social Networks: Theories, Concepts, and Findings*. Oxford UP.

All other course material will be available on Canvas.

Recommended Texts:

Wasserman, Stanley and Katherine Faust. 1994. *Social Network Analysis: Methods and Applications*. New York: Cambridge UP... this is the “bible” of social network analysis and a source that all SNA specialists cite and return to frequently.

Or

Jackson, Matthew O. 2010. *Social and economic networks*. Princeton university press.

General Background Texts:

Christakis, Nicholas A. and James H. Fowler. 2009. *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*. New York: Little Brown.

Watts, Duncan J. 2003. *Small Worlds: The Science of a Connected Age*. New York: Norton.

Freeman, Linton C. 2004. *The Development of Social Network Analysis: A Study in the Sociology of Science*. Vancouver, BC: Empirical Press...a detailed history of social network analysis from one of the “founders” of the contemporary field.

Programs:

We will use R to analyze and draw social networks in this course. If you aren't familiar with R, you are encouraged to take an introductory course at datacamp.com or an equivalent introduction. Datacamp has offered free access to the class for its many tutorials that could be useful, but there are several other strong introductions to R.

Other R and Rstudio resources:

Hadley Wickham's R for Data Science: <http://r4ds.had.co.nz/tidy-data.html#introduction-6>

Roger Peng's Book: <https://leanpub.com/rprogramming>

Cheatsheets: <https://www.rstudio.com/resources/cheatsheets/>

Swirl Courses: <http://swirlstats.com/scn/title.html>

Course Schedule (Subject to change with appropriate notice in class or through email):

Week 1 (4/3): Introductions

Borgatti, Stephen P., Ajay Mehra, Daniel J. Brass, and Giuseppe Labianca. 2009. "Network Analysis in the Social Sciences." *Science* 323:892-895.

Week 2 (4/10): Foundations of Social Network Analysis

Kadushin: Chapters 1-3 and 12

Marin, Alexandra, and Barry Wellman. 2011. "Social network analysis: An introduction." *The Sage Handbook of Social Network Analysis*: 11-25.

Exercise: Draw your family tree going 3-steps from ego (Try in R?).

Week 3 (4/17): Collecting and Visualizing Network Data

Kadushin: Chapter 11

Breiger, Ronald L. 2005. "[Introduction to special issue: ethical dilemmas in social network research.](#)" *Social Networks* 27:89-93

Fuhse, Jan, and Sophie Mützel. "Tackling connections, structure, and meaning in networks: quantitative and qualitative methods in sociological network research." *Quality & quantity* 45, no. 5 (2011): 1067-1089.

Small, Mario Luis. "Weak ties and the core discussion network: Why people regularly discuss important matters with unimportant alters." *Social networks* 35, no. 3 (2013): 470-483.

Freeman, Linton C. "Social Network Visualization, Methods of." In *Encyclopedia of Complexity and Systems Science*, pp. 8345-8363. Springer New York, 2009.

Exercise: Find SNA data and import into R. Describe the data/network(s).

Week 4 (4/24): Local Networks, Distance, and Social Capital

Kadushin Chapters 5, 6, and 10

Jeffrey A. Smith, Miller McPherson, and Lynn Smith-Lovin. 2014. "Social Distance in the United States: Sex, Race, Religion, Age and Education Homophily among Confidants, 1985-2004." *American Sociological Review* 432-456.

Lizardo, Omar. 2006. "[How Cultural Tastes Shape Personal Networks](#)" *American Sociological Review* 71:778-807.

Coleman, James. 1988. "[Social Capital in the Creation of Human Capital](#)" *American Journal of Sociology* 95: 95-120.

Exercise: Local network basics

Week 5 (5/1 Session Canceled, Move to 5/4?): Centrality, Power, and Network Structures

Kadushin: Chapter 9

González-Bailón, Sandra, Javier Borge-Holthoefer, Alejandro Rivero, and Yamir Moreno. "The dynamics of protest recruitment through an online network." *Scientific reports* 1 (2011): 197.

Mintz, Beth and Michael Schwartz. 1981. "The Structure of Intercompany Unity in American Business."

Social Problems 29: 87-103.

Fowler, James H. 2006. "[Legislative cosponsorship networks in the US House and Senate.](#)" *Social Networks* 28: 454-65.

Cowan, Sarah K., and Delia Baldassarri. "'It could turn ugly': Selective disclosure of attitudes in political discussion networks." *Social Networks* 52 (2018): 1-17.

Exercise: Centrality

Week 6 (5/8): Cohesion and Community Detection

Kadushin: Chapters 4 and 8

Haynie, Dana L. 2001. "Delinquent Peers Revisited: Does Network Structure Matter?" *American Journal of Sociology*. 106:1013-57.

Prell, Christina, Kuishuang Feng, LaCixiang Sun, Martha Geores, and Klaus Hubacek. "The economic gains and environmental losses of US consumption: a world-systems and input-output approach." *Social Forces* 93, no. 1 (2014): 405-428.

Shwed, Uri, and Peter S. Bearman. 2010. "The Temporal Structure of Scientific Consensus Formation." *American Sociological Review* 75(6):817-40.

González-Bailón, Sandra, and Ning Wang. "Networked discontent: The anatomy of protest campaigns in social media." *Social networks* 44 (2016): 95-104.

Exercise: Cohesion and Community

Week 7 (5/15): Roles, Positions, and Influence

Granovetter, Mark S. 1973. "[The Strength of Weak Ties.](#)" *American Journal of Sociology* 78:1360-80.

Burt, Ronald S. 2001. "Structural Holes versus Network Closure as Social Capital." Pp. 31-56 in N. Lin, K. Cook and R. S. Burt. *Social Capital: Theory and Research. Sociology and Economics: Controversy and Integration series.* New York: Aldine de Gruyter

Trieu, Penny, Joseph B. Bayer, Nicole B. Ellison, Sarita Schoenebeck, and Emily Falk. "Who likes to be reachable? Availability preferences, weak ties, and bridging social capital." *Information, Communication & Society* (2017): 1-16.

Goldman, Alyssa W., and Benjamin Cornwell. "Social network bridging potential and the use of complementary and alternative medicine in later life." *Social Science & Medicine* 140 (2015): 69-80.

Exercise: Roles and Positions

Week 8 (5/22): Groups and Duality

Breiger, Ronald L. 1974. "[The Duality of Persons and Groups.](#)" *Social Forces* 53:181-90.

Moody, James. 2004. "[The Structure of a Social Science Collaboration Network](#)" *American Sociological Review* 69:213-264.

Burris, Val. 2004. "The academic caste system: Prestige hierarchies in PhD exchange networks." *American sociological review*, 69(2), pp.239-264.

Rule, Alix, Jean-Philippe Cointet, and Peter S. Bearman. 2015. "Lexical shifts, substantive changes, and continuity in State of the Union discourse, 1790–2014." *Proceedings of the National Academy of Sciences* 112, no. 35: 10837-10844.

Bail, Christopher A., Taylor W. Brown, and Marcus Mann. 2017. "Channeling Hearts and Minds: Advocacy Organizations, Cognitive-Emotional Currents, and Public Conversation." *American Sociological Review* 82, no. 6: 1188-1213.

Exercise: Duality and Text Networks

Week 9 (5/22): Text Networks

Adamic, Lada A., and Natalie Glance. 2005. "The political blogosphere and the 2004 US election: divided they blog." In *Proceedings of the 3rd international workshop on Link discovery*, pp. 36-43.

Light, Ryan. 2014. "From words to networks and back: Digital text, computational social science, and the case of presidential inaugural addresses." *Social Currents* 1, no. 2: 111-129.

Rule, Alix, Jean-Philippe Cointet, and Peter S. Bearman. 2015. "Lexical shifts, substantive changes, and continuity in State of the Union discourse, 1790–2014." *Proceedings of the National Academy of Sciences* 112, no. 35: 10837-10844.

Bail, Christopher A., Taylor W. Brown, and Marcus Mann. 2017. "Channeling Hearts and Minds: Advocacy Organizations, Cognitive-Emotional Currents, and Public Conversation." *American Sociological Review* 82, no. 6: 1188-1213.

Exercise: Text Networks

Week 10 (5/29): Introduction to Statistical Models

Robins, Garry, Philippa Pattison, Yuval Kalish, and Dean Lusher. 2007. "An Introduction to Exponential Random Graph (p*) Models for Social Networks." *Social Networks* 29(2):173-91.

Smith, Chris M., and Andrew V. Papachristos. 2016. "Trust thy crooked neighbor: multiplexity in Chicago organized crime networks." *American Sociological Review* 81, no. 4 (2016): 644-667.

Schaefer, David R., Olga Kornienko, and Andrew M. Fox. 2011. "Misery Does Not Love Company: Network Selection Mechanisms and Depression Homophily." *American Sociological Review* 75(5):764-85.

Be prepared to discuss projects

FINAL PAPER DUE 4pm, JUNE 12th to My Office (632 PLC)

Encouraging Inclusive Learning Environments

The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability related barriers to your participation. You are also encouraged to contact the Accessible Education Center (formerly Disability Services) in 164 Oregon Hall at 346-1155 or uoaec@uoregon.edu.

Academic Misconduct: The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at www.libweb.uoregon.edu/guides/plagiarism/students.