First Candidacy Examination Reading List
Field: Social Networks

Part 1. Structuralism in Sociology

Blau, P. M. (1977). A Macrosociological Theory of Social Structure. *American Journal of Sociology*, *83*(1), 26-54.

Breiger, R. L. (1974). The duality of persons and groups. *Social Forces*, *53*(2), 181-190.

Emirbayer, M., & Goodwin, J. (1994). "Network analysis, culture, and the problem of agency." *American Journal of Sociology*, *99*(6), 1411-1454.

Erikson, E. (2013). Formalist and relationalist theory in social network analysis. *Sociological Theory*, *31*(3), 219-242.

Fuhse, J. A. (2020). Theories of Social Networks. In Light, R., & Moody, J. (Eds.), *The Oxford Handbook of Social Networks* (pp. 34-49). Oxford University Press.

Mische, A. (2011). Relational sociology, culture, and agency. In Scott, J., & Carrington, P. J. (Eds.), *The Sage Handbook of Social Network Analysis* (pp. 80-97). SAGE publications.

Part 2. Agent-Based Modeling

Axelrod, R. M. (1997). The Dissemination of Culture: A Model with Local Convergence and Global Polarization. *Journal of Conflict Resolution*, *41*(2), 203–226.

Bianchi, F., & Squazzoni, F. (2015). Agent-based models in sociology. *Wiley Interdisciplinary Reviews: Computational Statistics*, *7*(4), 284–306.

Bravo, G., Squazzoni, F., & Boero, R. (2012). Trust and partner selection in social networks: An experimentally grounded model. *Social Networks*, *34*(4), 481-492.

Carley, K. M. (1991). A Theory of Group Stability. *American Sociological Review*, *56*(3), 331–354.

Chwe, M. S. Y. (1999). Structure and strategy in collective action. *American Journal of Sociology*, *105*(1), 128-156.

Epstein, J. M. (1999). Agent-based computational models and generative social science. *Complexity*, *4*(5), 41-60.

Fowler, J. H., & Smirnov, O. (2005). Dynamic parties and social turnout: An agent-based model. *American Journal of Sociology*, *110*(4), 1070–1094.

Friedkin, N. E., Proskurnikov, A. V., Tempo, R., & Parsegov, S. E. (2016). Network science on belief system dynamics under logic constraints. *Science*, *354*(6310), 321-326.

Macy, M. W., & Willer, R. (2002). From factors to actors: Computational sociology and agent-based modeling. *Annual Review of Sociology*, *28*(1), 143-166.

Nowak, M. A., & Sigmund, K. (1992). Tit for tat in heterogeneous populations. *Nature*, *355*(6357), 250-253.

Schelling, T. C. (1971). Dynamic models of segregation. *Journal of Mathematical Sociology*, *1*(2), 143-186.

Strang, D., & Macy, M. W. (2001). In search of excellence: Fads, success stories, and adaptive emulation. *American Journal of Sociology*, *107*(1), 147-182.

Part 3. Centrality

Agneessens, F., Borgatti, S. P., & Everett, M. G. (2017). Geodesic based centrality: Unifying the local and the global. *Social Networks*, *49*, 12-26.

Bonacich, P., & Lloyd, P. (2001). Eigenvector-like measures of centrality for asymmetric relations. *Social Networks*, *23*(3), 191-201.

Borgatti, S. P. (2003, October). Identifying sets of key players in a network. In *IEMC'03 Proceedings. Managing Technologically Driven Organizations: The Human Side of Innovation and Change (IEEE Cat. No. 03CH37502)* (pp. 127-131). IEEE.

Borgatti, S. P. (2005). Centrality and network flow. *Social Networks*,*27*(1), 55-71.

Borgatti, S. P., & Everett, M. G. (2006). A graph-theoretic perspective on centrality. *Social Networks*, *28*(4), 466-484.

Borgatti, S. P., & Everett, M. G. (2020). Three perspectives on centrality. In Light, R., & Moody, J. (Eds.), *The Oxford Handbook of Social Networks* (pp. 334-351). Oxford University Press.

Christakis, N. A., & Fowler, J. H. (2010). Social network sensors for early detection of contagious outbreaks. *PLoS ONE*, *5*(9), e12948.

Everett, M. G., & Borgatti, S. P. (2010). Induced, endogenous and exogenous centrality. *Social Networks*, *32*(4), 339-344.

Faris, R., & Felmlee, D. (2011). Status struggles: Network centrality and gender segregation in same-and cross-gender aggression. *American Sociological Review*, *76*(1), 48-73.

Rossman, G., Esparza, N., & Bonacich, P. (2010). I'd like to thank the Academy, team spillovers, and network centrality. *American Sociological Review*, *75*(1), 31-51.

Part 4. Weak Ties and Small World

Aral, S., & Van Alstyne, M. (2013). The Diversity-Bandwidth Trade-off. *American Journal of Sociology*, *117*(1), 90–171.

Bakshy, E., Rosenn, I., Marlow, C., & Adamic, L. (2012). The Role of Social Networks in Information Diffusion. *Proceedings of the 21st International Conference on World Wide Web*, *1201.4145*, 519–528.

Bian, Y. (1997). Bringing strong ties back in: Indirect ties, network bridges, and job searches in China. *American Sociological Review*, 366-385.

Borgatti, S. P., & Everett, M. G. (2000). Models of core/periphery structures. *Social Networks*, *21*(4), 375-395.

Flache, A., & Macy, M. W. (2011). Small worlds and cultural polarization. *The Journal of Mathematical Sociology*, *35*(1-3), 146-176.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, *78*(6), 1360-1380.

Karsai, M., Kivelä, M., Pan, R. K., Kaski, K., Kertész, J., Barabási, A. L., & Saramäki, J. (2011). Small but slow world: How network topology and burstiness slow down spreading. *Physical Review E*, *83*(2), 025102.

Park, P. S., Blumenstock, J. E., & Macy, M. W. (2018). The strength of long-range ties in population-scale social networks. *Science*, *362*(6421), 1410–1413.

Travers, J., & Milgram, S. (1977). An experimental study of the small world problem. In *Social Networks* (pp. 179-197). Academic Press.

Uzzi, B., & Spiro, J. (2005). Collaboration and Creativity: The Small World Problem. *American Journal of Sociology*, *111*(2), 447–504.

Uzzi, B., Amaral, L. A. N., & Reed-Tsochas, F. (2007). Small-world networks and management science research: a review. *European Management Review*, *4*, 77–91.

Watts, D. J. (1999). Networks, dynamics, and the small-world phenomenon. *American Journal of Sociology*, *105*(2), 493-527.

Watts, D. J., & Strogatz, S. H. (1998). Collective dynamics of 'small-world' networks. *Nature*, *393*(6684), 440-442.

Part 5. Social Capital

Burt, R. S. (2004). Structural Holes and Good Ideas. *American Journal of Sociology*, *110*(2), 349–399.

Burt, R. S., Bian, Y., & Opper, S. (2018). More or less guanxi: Trust is 60% network context, 10% individual difference. *Social Networks*, *54*, 12-25.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, *94*, S95-S120.

Fernandez, R. M., Castilla, E. J., & Moore, P. (2000). Social capital at work: Networks and employment at a phone center. *American Journal of Sociology*, *105*(5), 1288-1356.

Lin, N. (1999). Building a network theory of social capital. *Connections*, *22*(1), 28-51.

McDonald, S. (2011). What's in the "old boys" network? Accessing social capital in gendered and racialized networks. *Social Networks*, *33*(4), 317–330.

Mcpherson, M., Smith-lovin, L., & Brashears, M. E. (2005). Social Isolation in America: Changes in Core Discussion Networks over Two Decades. *American Sociological Review*, *71*, 353–375.

Putnam, R. D. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, *6*, 65-78.

Smith, S. S. (2005). "Don't put my name on it": Social capital activation and job-finding assistance among the black urban poor. *American Journal of Sociology*, *111*(1), 1-57.

Part 6. Political Polarization

Bail, C. A., Argyle, L. P., Brown, T. W., Bumpus, J. P., Chen, H., Hunzaker, M. B. F., Lee, J., Mann, M., Merhout, F., & Volfovsky, A. (2018). Exposure to opposing views on social media can increase political polarization. *Proceedings of the National Academy of Sciences*, *115*(37), 9216–9221.

Baldassarri, D., & Bearman, P. (2007). Dynamics of political polarization. *American Sociological Review*, *72*(5), 784-811.

Barberá, P., Jost, J. T., Nagler, J., Tucker, J. A., & Bonneau, R. (2015). Tweeting From Left to Right: Is Online Political Communication More Than an Echo Chamber? *Psychological Science*, *26*(10), 1531–1542.

Boutyline, A., & Vaisey, S. (2017). Belief network analysis: A relational approach to understanding the structure of attitudes. *American Journal of Sociology*, *122*(5), 1371-1447.

DellaPosta, D., Shi, Y., & Macy, M. (2015). Why do liberals drink lattes? *American Journal of Sociology*, *120*(5), 1473-1511.

DiMaggio, P., Evans, J., & Bryson, B. (1996). Have Americans' Social Attitudes Become More Polarized? *American Journal of Sociology*, *102*(3), 690–755.

Finkel, E. J., Bail, C. A., Cikara, M., Ditto, P. H., Iyengar, S., Klar, S., Mason, L., McGrath, M. C., Nyhan, B., Rand, D. G., Skitka, L. J., Tucker, J. A., Van Bavel, J. J., Wang, C. S., & Druckman, J. N. (2020). Political sectarianism in America. *Science*, *370*(6516), 533–536.

Flaxman, S., Goel, S., & Rao, J. M. (2016). Filter bubbles, echo chambers, and online news consumption. *Public Opinion Quarterly*, *80*(S1), 298-320.

Garimella, K., De Francisci Morales, G., Gionis, A., & Mathioudakis, M. (2018, April). Political discourse on social media: Echo chambers, gatekeepers, and the price of bipartisanship. In *Proceedings of the 2018 World Wide Web Conference* (pp. 913-922).

Gentzkow, M., Shapiro, J., & Taddy, M. (2016). *Measuring polarization in high-dimensional data: Method and application to congressional speech* (No. id: 11114).

Matakos, A., Terzi, E., & Tsaparas, P. (2017). Measuring and moderating opinion polarization in social networks. *Data Mining and Knowledge Discovery*, *31*(5), 1480-1505.

Part 7. Social Contagions and Peer Influence

Aral, S., Muchnik, L., & Sundararajan, A. (2009). Distinguishing influence-based contagion from homophily-driven diffusion in dynamic networks. *Proceedings of the National Academy of Sciences*, *106*(51), 21544-21549.

Bakshy, E., Hofman, J. M., Mason, W. A., & Watts, D. J. (2011, February). Everyone's an influencer: quantifying influence on twitter. In *Proceedings of the fourth ACM international conference on Web search and data mining* (pp. 65-74).

Burt, R. S. (1987). Social contagion and innovation: Cohesion versus structural equivalence. *American Journal of Sociology*, *92*(6), 1287-1335.

Centola, D. (2010). The spread of behavior in an online social network experiment. *Science*, *329*(5996), 1194-1197.

Centola, D., & Macy, M. (2007). Complex contagions and the weakness of long ties. *American Journal of Sociology*, *113*(3), 702-734.

Christakis, N. A., & Fowler, J. H. (2007). The spread of obesity in a large social network over 32 years. *New England Journal of Medicine*, *357*(4), 370-379.

Goldberg, A., & Stein, S. K. (2018). Beyond social contagion: Associative diffusion and the emergence of cultural variation. *American Sociological Review*, *83*(5), 897-932.

Granovetter, M. (1978). Threshold models of collective behavior. *American Journal of Sociology*, *83*(6), 1420-1443.

Haynie, D. L. (2001). Delinquent Peers Revisited: Does Network Structure Matter? *American Journal of Sociology*, *106*(4), 1013–1057.

Karsai, M., Iniguez, G., Kaski, K., & Kertész, J. (2014). Complex contagion process in spreading of online innovation. *Journal of The Royal Society Interface*, *11*(101), 20140694.

Lai, G., & Wong, O. (2002). The tie effect on information dissemination: the spread of a commercial rumor in Hong Kong. *Social Networks*, *24*(1), 49-75.

Liu, K.-Y., King, M., & Bearman, P. S. (2010). Social Influence and the Autism Epidemic. *American Journal of Sociology*, *115*(5), 1387–1434.

Shalizi, C. R., & Thomas, A. C. (2011). Homophily and Contagion Are Generically Confounded in Observational Social Network Studies. *Sociological Methods & Research*, *40*(2), 211–239.

Tang, J., Sun, J., Wang, C., & Yang, Z. (2009, June). Social influence analysis in large-scale networks. In *Proceedings of the 15th ACM SIGKDD international conference on Knowledge discovery and data mining* (pp. 807-816).

Ugander, J., Backstrom, L., Marlow, C., & Kleinberg, J. (2012). Structural diversity in social contagion. *Proceedings of the National Academy of Sciences*, *109*(16), 5962-5966.

Valente, T. W. (2005). Network models and methods for studying the diffusion of innovations. *Models and methods in social network analysis*, *28*, 98-116.

Part 8. Networked Experiment

Aral, S. (2016). Networked Experiments. In Y. Bramoullé, A. Galeotti, & B. Rogers (Eds.), *The Oxford Handbook on the Economics of Networks* (pp. 376-411). Oxford University Press.

Aral, S., & Walker, D. (2012). Identifying influential and susceptible members of social networks. *Science*, *337*(6092), 337-341.

Baldassarri, D., & Abascal, M. (2017). Field experiments across the social sciences. *Annual Review of Sociology*, *43*, 41-73.

Bond, R. M., Fariss, C. J., Jones, J. J., Kramer, A. D., Marlow, C., Settle, J. E., & Fowler, J. H. (2012). A 61-million-person experiment in social influence and political mobilization. *Nature*, *489*(7415), 295-298.

Brashears, M. E., & Gladstone, E. (2016). Error correction mechanisms in social networks can reduce accuracy and encourage innovation. *Social Networks*, *44*, 22-35.

Centola, D. (2011). An experimental study of homophily in the adoption of health behavior. *Science*, *334*(6060), 1269-1272.

Centola, D., Becker, J., Brackbill, D., & Baronchelli, A. (2018). Experimental evidence for tipping points in social convention. *Science*, *360*(6393), 1116-1119.

Jackson, M., & Cox, D. R. (2013). The principles of experimental design and their application in sociology. *Annual Review of Sociology*, *39*, 27-49.

Lorenz, J., Rauhut, H., Schweitzer, F., & Helbing, D. (2011). How social influence can undermine the wisdom of crowd effect. *Proceedings of the National Academy of Sciences*, *108*(22), 9020-9025.

Muchnik, L., Aral, S., & Taylor, S. J. (2013). Social influence bias: A randomized experiment. *Science*, *341*(6146), 647-651.

Salganik, M. J., Dodds, P. S., & Watts, D. J. (2006). Experimental study of inequality and unpredictability in an artificial cultural market. *Science*, *311*(5762), 854-856.

Part 9. Statistical Models for Network Formation

Block, P., Stadtfeld, C., & Snijders, T. A. (2019). Forms of dependence: Comparing SAOMs and ERGMs from basic principles. *Sociological Methods & Research*, *48*(1), 202-239.

Kuskova, V., & Wasserman, S. (2020). An Introduction to Statistical Models for Networks. In Light, R., & Moody, J. (Eds.), *The Oxford Handbook of Social Networks* (pp. 219-233). Oxford University Press.

Leifeld, P., & Cranmer, S. J. (2019). A theoretical and empirical comparison of the temporal exponential random graph model and the stochastic actor-oriented model. *Network Science*, *7*(1), 20-51.

Robins, G., Snijders, T., Wang, P., Handcock, M., & Pattison, P. (2007). Recent developments in exponential random graph (p*) models for social networks. *Social Networks*, *29*(2), 192-215.

Schaefer, D. R., & Marcum, C. S. (2017). Modeling network dynamics. In Light, R., & Moody, J. (Eds.), *The Oxford Handbook of Social Networks* (pp. 254-287). Oxford University Press.

Schaefer, D. R., Kornienko, O., & Fox, A. M. (2011). Misery does not love company: Network selection mechanisms and depression homophily. *American Sociological Review*, *76*(5), 764-785.

Snijders, T. A. (2011). Statistical models for social networks. *Annual Review of Sociology*, *37*, 131-153.

Snijders, T. A., Van de Bunt, G. G., & Steglich, C. E. (2010). Introduction to stochastic actor-based models for network dynamics. *Social Networks*, *32*(1), 44-60.

Wang, P., Robins, G., Pattison, P., & Lazega, E. (2013). Exponential random graph models for multilevel networks. *Social Networks*, *35*(1), 96-115.

Wasserman, S., Robins, G., & Steinley, D. (2006, June). Statistical models for networks: A brief review of some recent research. In *ICML Workshop on Statistical Network Analysis* (pp. 45-56). Springer, Berlin, Heidelberg.

Wimmer, Andreas and Kevin Lewis. 2010. "Beyond and below Racial Homophily: ERG Models of a Friendship Network Documented on Facebook." *American Journal of Sociology, 116*(2), 583–642.