University of Pisa
Department of Social Science
Section “Theories and Methods of Social Network Analysis and Social Capital”

Offer a

Workshop on Social Network Theory and Methods
June 16-19 2009

Filip Agneessens, VU University, Amsterdam

The Section "Theories and Methods of Social Network Analysis and Social Capital", Department of Social Science, University of Pisa, offers a 4 days training course on social network theory and methods. The course is taught by Filip Agneessens of the Department of Organization Science at the University of Amsterdam.
This course is designed to give participants an introduction in the theory and application of social network analysis. The course will be based on theoretical sessions followed by "hands on" practical sessions illustrating the theoretical concepts. The hands on sessions will use the Ucinet, PNet, Siena software package.

Location: the workshop is held at the University of Pisa, Department Social Science, Pisa, Via Colombo, n. 35
Time: 16-19 June 2009; h. 10-13 / 14-17
Teacher: Filip Agneessens, University of Amsterdam
Teaching language: English (and eventually italian in informal conversations)
Partecipants: Maximum number of participants: 15
Fee: 330€/participant (include only the "Coursepack"))
Registration: The deadline for registration is May 9, 2009. Please compile the application form, which can be found on the last page of this document. The course is available for early registration (by May 9). Applicants will be sent confirmation of their course booking by e-mail. Full payment must be received by 15 May 2009. Applicants need to check the sna-dss website for up-to-date information on course availability (http://sna.dss.unipi.it).
Payment: Full information about methods of payment (bank transfer or other) will be send to the applicants in the confirmation mail.
Responsible/Coordinator: Andrea Salvini University of Pisa

For more information, visit our website at http://sna.dss.unipi.it
or contact sna@dss.unipi.it; Andrea Salvini salvini@dss.unipi.it or Dania Cordaz dania.cordaz@dss.unipi.it

This course offers a four day introduction to Social Network Theory and Methods. Each session starts with a discussing of some network related theories and processes and then discusses some ways to capture or measure such processes.

Concepts dealt with at a theoretical level include:

- social capital and social support,
- the effects of strong and weak ties,
- the impact of closure (Coleman) and Krackhardt's Simmelian ties
- the importance of Burt's structural holes and brokerage positions
- the norm of reciprocity, exchange and multiplexity
- centralization and clustering in real social networks
- homophily resulting from social selection mechanisms and contagion, …

Methodological topics and models will include:

- the measurement of different types of ties (advice, trust, conflict, …), and the graphical representation
- different measures for centrality of actors in a network (degree, betweenness, closeness, …), their theoretical meaning and impact,
- Burt's constraint index, Gould and Fernandez' brokerage types
- density, centralization, and the level of reciprocity, exchange and multiplexity in a network
- influence effects and contagion through autocorrelation models
- selection mechanisms based on homophily, clustering and reciprocity using p*/ERG modelling
- disentangling selection from influence mechanisms using a longitudinal approach

Programs used include:

- Netdraw for visualisation
- UCINET for centrality measures, constraint index, brokerage and QAP regression (for the level of homophily, reciprocity, etc)
- PNet for p*/ERGM

DAY 1: Social capital, social support, centrality measures, network measures and types of ties.

In this session we start with briefly discussing the social capital concept and the social support literature, and how these can be measured through social networks. We consider some basic characteristics of a network and discuss some measures for positions of actors inside a network and their theoretical meaning. At the *network level* we focus on density and centralization of the network and its assumed importance in teams/groups. At the *individual level* we focus on the effect of different measures of centrality (degree, closeness, betweenness centrality, etc). We then discuss different types of ties (friendship, advice, trust, conflict), their measurement, as well as problems of information accuracy.

EXERCISES:

-UCINET: basics (how to build a dataset, etc), density, centralization, degree, betweenness and closeness centrality

-Collecting network data and questionnaire design

REFERENCES:

Social support and social capital:

Wellman, B. 1979. The Community question. The intimate network of East Yorkers. American Journal of Sociology 84: 1201-1231.

Thoits, P.A. 1983 Multiple identities and psychological well-being - A reformulation and test of the social-isolation hypothesis. American Sociological Review 48: 174-187.

House, J.S., D. Umberson, K.R. Landis. 1988. Structures and processes of social support Annual Review of Sociology 14: 293-318.

Agneessens, F, H. Waege, J. Lievens. 2006. Diversity in social support by role relations: A typology Social Networks 28: 427-441.

Portes, A. 1998. Social Capital: Its origins and applications in modern sociology: Annual Review of Sociology 24: 1-24.

Henk F., B. Völker 2001 Goal specific social capital and job satisfaction: Effects of different types of networks on instrumental and social aspects of work. Social Networks 23: 297-320.

Density, centralisation and centrality measures:

Sparrowe, R. T., Liden, R. C., Wayne, S. J., & Kraimer, M. L. 2001. Social networks and the performance of individuals and groups. Academy of Management Journal 44, 316-325.

Bavelas, A. 1950. Communication patterns in task-oriented groups. Journal of the Acoustical Society of America 22: 723-730.

Newman, M.E.J., J. Park. 2003. Why social networks are different from other types of networks. Physical Review E 68.

Freeman, L.C. 1979. Centrality in social networks: conceptual clarification. Social Networks 1: 215-239.

Brass, D.J. 1984. Being in the right place: A structural analysis of individual influence in an organization. Administrative Science Quarterly 29: 518-539.

Types of relations:

Wellman, B. 1979. The Community question. The intimate network of East Yorkers. American Journal of Sociology 84: 1201-1231.
Fisher, C.S. What do we mean by friends? An inductive study. Social Networks 3: 287-306.
Cross, R., S.P. Borgatti, A. Parker. 2001 Beyond answers: dimensions of the advice network. Social Networks 23: 215-235.
Kramer, R.M. 1999. Trust and distrust in organizations: Emerging perspectives, enduring questions. Annual Review of Psychology 50: 569-598.
Mayer, R.C., J.H. Davis, F.D. Schoorman. 1995. An integrative model of organizational trust. Academy of Management Review 20: 709-734.
Pelled, L.H. 1996. Demographic diversity, conflict, and work group outcomes: An intervening process theory. Organization Science 7: 615-631.

Questionnaire design and generators:

Van Der Gaag, M., T.A.B. Snijders. 2005 The Resource Generator: social capital quantification with concrete items. Social Networks 27: 1-29.
de Lange, D, F. Agneessens, H. Waege. 2004. Asking social network questions: a quality assessment of different measures. Metodološki Zvezki - Advances in Methodology and Statistics1, No. 2, 2004, 351-378. (mrvar.fdv.uni-lj.si/pub/mz/mz1.1/lange.pdf).
Marsden, P.V. 1990. Network data and measurement. Annual Review of Sociology 16: 435-463.
McCallistar, L. 1978. Procedure for surveying personal networks. Sociological Methods and Research 7: 131-148.

DAY 2: Weak and strong ties, Simmelian ties, structural holes, closure and brokerage position

In this session we consider the effects of structural position of a person and relate this to the strength of the tie. We start with Heider's balance theory and go on to Granovetter's Strength of weak ties and forbidden triad principle. We then consider the potential impact of Burt's structural holes and Coleman's idea of the benefits of network closure, and also discuss Simmel's triad and Krackhardt's Simmelian ties. Finally we deal with Gould and Fernandez' brokerage types.

EXERCISES:

-UCINET: Positions - Reciprocity - Closed triads for weak and strong ties - Constraint index – Cliques - Brokerage types

REFERENCES:

Reciprocity, multiplexity and exchange:

Gouldner, A.W. 1960. The norm of reciprocity. American Sociological Review 25: 161-178.
Uehara, E.S. Reciprocity reconsidered. Journal of Social and Personal Relationships 12: 483-502.
Katz, L., J. H. Powell. 1955. Measurement of the tendency toward reciprocation of

choice. Sociometry 19: 403-409.
Skvoretz, J., F. Agneessens. 2007. Reciprocity, multiplexity, and exchange: Measures. Quality and Quantity 341-357.
Lazega, E., P.E. Pattison 1999 Multiplexity, generalized exchange and cooperation in organizations: a case study. Social Networks 21: 67-90.
Plickert, G., R.R. Côté, B. Wellman. 2007. It's not who you know, it's how you know them: Who exchanges what with whom? Social Networks 29: 405-429.

Structure:

Gabbay, S.M., R.Th.A.J. Leenders. 2001. Social capital of organizations: from social structure to the management of corporate social capital. In: Gabbay, S.M., R.Th.A.J. Leenders (eds.) Research in the Sociology of Organizations Volume 18, Elsevier: 1-20.
Granovetter, M. 1973. Strength of weak ties. American Journal of Sociology 78: 1360-1380.
Friedkin, N. 1980. A test of structural features of Granovetter's Strength of Weak Ties theory. Social Networks 2: 411-422.
Burt, R. 2000. The network structure of social capital. Research in Organizational Behavior 22: 345-423.
Krackhardt, D. 1999. Ties that torture: Simmelian tie analyses in organizations. Research in the Sociology of Organizations 16, 183–210.
Gould, R., R. Fernandez. 1989. Structures of mediation: A formal approach to brokerage in transaction networks. Sociological Methodology. 19: 89-126.

DAY 3: Homophily, diversity, social contagion
In this session we discuss the principle of homophily due to selection processes, and then go on to discuss the effects of such a homophily on diversity and resourcefulness of a person's network. We then go on to discuss contagion as an alternative source for homophily.

EXERCISES:
-UCINET: Homophily - QAP regression
-Social contagion models

REFERENCES: Homophily

McPherson, M., L. Smith-Lovin, J.M. Cook. 2001. Birds of a feather. Annual Review of Sociology 27: 415-444.
Kandel, D.B. 1978. Homophily, selection, and socialization in adolescent friendships. American Journal of Sociology 84: 427-436.
van Duijn, M.A.J. , E.P.H. Zeggelink, M. Huisman, F.N. Stokman, F.W. Wasseur. 2003. Evolution of sociology freshmen into a friendship network. Journal of Mathematical Sociology 27: 153-191.

Diversity

Campbell, K.E., P.V. Marsden, J.S. Hurlbert 1986 Social resources and socioeconomic

status Social Networks 8: 97-117.
Lin, Nan, Walter M. Ensel, John C. Vaughn. 1981. Social Resources and Strength of Ties: Structural Factors in Occupational Status Attainment. American Sociological Review 46(4):393-405.
Marsden, P.V. 1988. Homogeneity in confiding relations. Social Networks 10: 57-76.
Burt, R.S. 1983. Range. Pp. 176-194 in Burt & Minor (Eds.) Applied Network Analysis. Beverly Hills: Sage.
Uzzi, B. 1996. The sources and consequences of embeddedness for the economic performance of organizations: The network effect. American Sociological Review 61: 674-698
Lin, N. 1999. Social Networks and Status Attainment. Annual Review of Sociology 23: 467-487.

Social contagion

Mardsen, P.V., Friedkin, N.E. 1993. Network studies of social influence. Sociological Methods & Research 22: 127-151.
Leenders, R.Th.A.J. 2002. Modelling social influence through network autocorrelation: Constructing the weight matrix. Social Networks 24: 21-47.

DAY 4: Structural processes combined: ERGM

In this session we introduce exponential random graph models (ERG models), also known as p* models. We first deal with triadic structures (a markov graph of order 3) for directed and undirected graphs. Some recent developments on model specification and estimation are also touched upon. We illustrate its usefulness based on some recent publications. We then take a quick look at the SIENA-approach to disentangle selection from influence mechanisms by simultaneously modelling changes in network structure and individual behaviour/attitudes (using longitudinal data).

EXERCISES:

-PNet / Stocnet

p* / ERGM

Wasserman, S., P. Pattison. 1996. Logit models and logistic regressions for social networks: I. An introduction to Markov graphs and p*. Psychometrika 61:401 425.
Lazega, E., P. Pattison. 1999. Multiplexity, generalized exchange and cooperation in organizations: a case study. Social Networks 21: 67-90.
Contractor, N.S., S. Wasserman, K. Faust. 2006. Testing multitheoretical, multilevel hypotheses about organizational networks: An analytic framework and empirical example. Academy of Management Review 31: 681-703.
Lubbers M.J., T.A.B. Snijders. 2007. A comparison of various approaches to the exponential random graph model: A reanalysis of 102 student networks in school classes. Social Networks 29: 489-507.
Wasserman, S., G. Robins. 2005. An introduction to random graphs, dependence graphs, and p*. In Carrington, P.J., Scott, J., and Wasserman, S. (eds.), Models and Methods in Social Network Analysis. New York: Cambridge University Press.
Robins, G., P. Pattison, Y. Kalish, D. Lusher. 2007. An introduction to exponential

random graph (p*) models for social networks. Social Networks 29: 173-191.

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

Robins, G., P. Elliot, P. Pattison. 2001. Network models for social selection processes. Social Networks 23: 1-30.

SIENA

Burk, W.J., C.E.G. Steglich, T.A.B. Snijders. 2007. Beyond dyadic interdependence: Actor-oriented models for co-evolving social networks and individual behaviors. International Journal of Behavioral Development 31: 397-404.

Agneessens, F, R. Wittek. 2008 Social capital and employee well-being: disentangling intrapersonal and interpersonal selection and influence mechanisms. Revue Française de Sociologie 49: 613.

Snijders, T.A.B. 1996. Stochastic actor-oriented models for network change. Journal of Mathematical Sociology 21: 149-172.

Snijders, T.A.B. 2005. Models for longitudinal network data. In Carrington, P., J. Scott, & S. Wasserman (eds.), Models and methods in social network analysis. New York: Cambridge University Press. p* / ERGM

Wasserman, S., P. Pattison. 1996. Logit models and logistic regressions for social networks: I. An introduction to Markov graphs and p*. Psychometrika 61:401 425.

Lazega, E., P. Pattison. 1999. Multiplexity, generalized exchange and cooperation in organizations: a case study. Social Networks 21: 67-90.

Contractor, N.S., S. Wasserman, K. Faust. 2006. Testing multitheoretical, multilevel hypotheses about organizational networks: An analytic framework and empirical example. Academy of Management Review 31: 681-703.

Lubbers M.J., T.A.B. Snijders. 2007. A comparison of various approaches to the exponential random graph model: A reanalysis of 102 student networks in school classes. Social Networks 29: 489-507.

Wasserman, S., G. Robins. 2005. An introduction to random graphs, dependence graphs, and p*. In Carrington, P.J., Scott, J., and Wasserman, S. (eds.), Models and Methods in Social Network Analysis. New York: Cambridge University Press.

Robins, G., P. Pattison, Y. Kalish, D. Lusher. 2007. An introduction to exponential random graph (p*) models for social networks. Social Networks 29: 173-191.

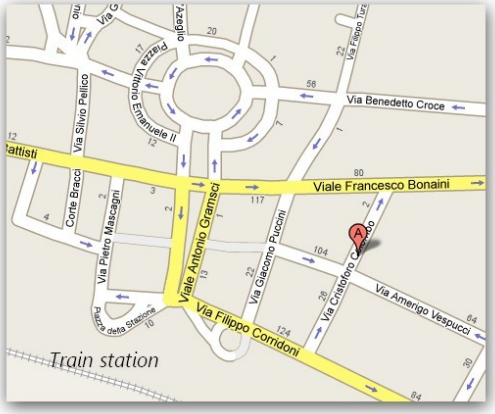
Robins, G., T. Snijders, P. Wang, M. Handcock, P. Pattison. 2007. Recent developments in exponential random graph (p*) models for social networks. Social Networks 29: 192-215.

Robins, G., P. Elliot, P. Pattison. 2001. Network models for social selection processes. Social Networks 23: 1-30.

The course will be held in Pisa, Department of Social Sciences,
Via C. Colombo 35, Informatics Room (1° floor)

Pisa is a nice town, universally known for its jewels, Piazza dei Miracoli and The Leaning Tower.

The location of the course is very easily reachable from the station, from the airport and from the highway (A12).



In the next week we will publish a list of useful hotels, restaurants and touristic locations (http://sna.dss.unipi.it/Logistics.htm)

The teacher is Filip Agneessens

Filip Agneessens is an Assistant Professor at the Department of Organization Science, VU University Amsterdam. He teaches a number of courses and summer courses on social network methods, social network theory and social network analysis applied to organizations.

His research centres on network formation within organizations and their impact on attitudes and behavior of individual employees, with a particular focus on how networks might impact job satisfaction and performance, as well as the emergence of advice and conflict ties in organizations.

He has been working on the development of random and biased networks, the building of social support typologies and how personal networks might impact an individual's well-being. In recent work he has also used exponential random graph models (p* models) to study cultural participation and (co)sponsorship among senators, by considering these as two-mode network data.

http://home.fsw.vu.nl/f.agneessens/index.htm

APPLICATION FORM
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_____

FIRST NAME
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AFFILIATION
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ADDRESS (WORKPLACE)
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TEL. _____ FAX _____ E-MAIL _____

ACADEMIC TITLE
_____

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PLEASE GIVE DETAILS OF YOUR CURRENT RESEARCH AND TEACHING INTERESTS IN ORDER OF PERSONAL PRIORITY

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Return this application form by mail to salvini@dss.unipi.it and dania.cordaz@sp.unipi.it or send a printout of this form with all supporting documents to this Fax number: 0039-050-2211921