Introduction to Social Network Analysis Workshop

Overview:

This is a two-day workshop that covers the essentials of social network analysis. The workshop is particularly useful for researchers who are interested in learning about theories and methods of analyzing social interactions, including (but not limited to) inter-individual and inter-organizational communication and partnership, social influence, social support, friendship and trust.

The workshop will cover a brief overview of network theories and an introduction to the methodology of data collection and analysis of social networks. The participants will learn about major social network theories and their implications for health research. They will be able to choose and adapt the optimal data collection techniques for their research, to prepare collected data for the analysis, to draw basic graphical network maps, to analyze social networks descriptively, and to choose appropriate statistical techniques to test hypotheses.

Requirements:

No prior knowledge in network analysis is required. The participants should be familiar with basics of statistics. Some of the small group exercises will be done in UCINET program. It is preferred if the participants bring your own laptop on which UCINET is installed. UCINET is free for the first 90 days of usage. It is a windows-based software but could also be installed on a Mac computer using BootCamp, VMFusion Ware, Parallels or Wine. You can find more information about UCINET here.

Preparatory readings:

The workshop will cover introductory concepts and techniques of social network analysis (SNA). The participants are not required to read any introductory material to be prepared for the workshop. However, if you are interested in expanding your knowledge base on SNA, I suggest the following readings; all are freely accessible and cover different aspects of network analysis paradigm (just copy the urls to your browser if the direct link does not work).

- Alexandra Marin and Barry Wellman wrote a chapter in the SAGE Handbook of Social Network Analysis (2011) that provides a very brief introduction to social network analysis and its position in the realm of social sciences. You can find a pre-publication version of it here: http://www.alexandramarin.ca/uploads/8/5/7/4/85749/marin_and_wellman_-_2010_-_social_network_analysis_an_introduction.pdf

- An introductory paper by Hawe et al. provides a very concise analysis-oriented glossary of terms frequently used in SNA: http://jech.bmj.com/content/58/12/971.full

- An online book by Bob Hanneman and Mark Riddle is a useful resource to learn different analytical techniques of SNA. All analyses have been done on UCINET (the program that we will use in the workshop). You can find the book here: http://faculty.ucr.edu/~hanneman/nettext/

- A paper by Valente et al. (2015) on the applications of SNA in program implementation: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0131712

Course instructor:

Reza Yousefi Nooraie is a post-doctoral fellow at the Institute of Health Policy, Management, and Evaluation; University of Toronto. His main area of studies is using social network analysis as a perspective to understand the process of knowledge translation (KT) and implementation science. He also has done other network analysis studies on co-authorship networks of scholars, partnership among health promotion agencies, and professional discussions of doctors.

Workshop schedule

Day 1	Time

Introduction to social network analysis
   o The importance of social relations
   o The concept of social networks
   o Types of networks
   o The very basics of network analysis
	8:30:00-9:30

Gathering network data
   o Data collection techniques
   o Data cleaning and preparation
	9:30-10:00

Exercise 1: Small group exercise on data collection	10:00-10:30
Break	10:30-10:45
Introduction to UCINET	10:45-11:15
Exercise 2: Data preparation	11:15-12:00
Lunch break	12:00-13:00
Graphical presentation of networks	13:00-13:30
Descriptive analysis of networks-1 *o* Overall network structure	13:30-14:15
Exercise 3: overall structure	14:15-15:00
Break	15:00-15:15
Exercise 4: Graphical presentation	15:15-16:00
Day 2	
Descriptive analysis of networks-2 *o* Different aspects of Centrality	9:00-9:45
Exercise 5: centrality	9:45-10:30
Break	10:30-10:45

Descriptive analysis of networks-3
   o Clustering and subgroups
   o Equivalence
	10:45-11:15

Exercise 6: clustering	11:15-12:00
Lunch break	12:00-13:00

A brief introduction to statistical analysis of social networks
   o Regression analysis of social networks
   o Exponential random graph modelling
   o Longitudinal analysis of social networks
	13:00-13:30

Exercise 7: Hypothesis testing	13:30-14:00

A brief overview of network theories
   o Social capital theories
   o Social influence theories
   o Diffusion of innovation
   o Social selection and behaviour change
	14:00-15:00

Break	15:00-15:15
Exercise 8: Network theories	15:15-16:00