Introduction to Social Network Analysis

The field of social network analysis is based on the sociological insight that the social world is relational. Rather than focusing on the attributes of individuals, social network analysis examines the patterning of relationships between individuals and groups to understand social action. Quantifying these relationships allows us to explore how social ties provide both opportunities and constraints across the life course. Over the past twenty five years, largely due to the increased availability of specialized software, there has been a proliferation of research using social network analysis in many fields, including business, public policy, public health, and education. This short course will provide you with the skills to read, evaluate, and contribute to this literature. We will cover the design, collection, analysis and interpretation of both whole and ego-centred network data.

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Learning Objectives

Upon completing this course, you will be able to:

• Understand the theoretical distinction and practical differences between whole / global and ego-centred network research designs

• Design network data collection tools for whole / global network data (including affiliation network data) and ego-centred network data

• Manage and clean network data

• Construct, calculate, interpret and use whole network measures at the network level such as density, centralization and reciprocity and at the individual-level such as degree, centrality, and group membership

• Construct, calculate, interpret and use ego-centred network measures such as size and homophily

• Conduct basic statistical analyses using both whole and ego-centred network data measures

• Create visualizations / maps of both whole / global and ego-centred networks

• Evaluate literature in your field that uses social network analysis

Who Will Benefit

This course will be helpful for researchers in any field —including psychology, sociology, education, business, human development, social work, public health, public policy, social work, communication, and others that rely on social science methodology —who want to learn how to collect, analyze and interpret social network data. Learners should have background knowledge in introductory statistics topics such as univariate statistical tests, descriptive statistics, correlation and regression analysis. Though proficiency in a specific software isn't required, ideally participants will have some familiarity with running analyses using some type of statistical software (e.g., R, SPSS, SAS, STATA).

Dates:	October 14-15, 2022
Program Delivery:	In-person
Commitment:	16 hours
Investment:	$795 Canadian dollars
	(until Sept 15; $895 after Sept 15)

Summary

In this course, you will be introduced to two types of social network analysis: whole / global (including affiliation networks) and ego-centred. You will learn how to gather, manage, analyze and interpret both types of social network data. Course topics include:

- Overview of theoretical and disciplinary underpinnings of social network analysis

- Designing ethical social network research

- Collecting whole and ego-centred social network data

- Analysis of one-mode whole network data

- Analysis of dual-mode whole network data (affiliation networks)

- Analysis of ego-centred network data

- Visualization of network data

- Interpreting and evaluating the use of social network analysis in various disciplines

Time Commitment and Course Delivery

The course will be delivered in person at the University of Calgary's downtown campus (906 8th Avenue SW, Calgary, Alberta, Canada). The course meets for two days, October 14-15, from 9-5.

Computing

Students will be introduced to a variety of specialized software during the course: UCINET for analysis of whole network data; E-NET for analysis of ego-centred network data; and NetDraw and Gephi for network visualization. All of these software packages are available for free. Because this is a hands-on course, learners are encouraged to bring a laptop to class with the software downloaded (instructions will be provided). Instruction will focus on demonstrating the data management, statistical and visualization techniques in multiple software programs and students are not required to be an expert in any specific software. Supplemental materials and examples will also include examples from various standard software packages such as SPSS, STATA, and R.

Faculty

DR. JENNY GODLEY, PHD

Dr. Godley is an Associate Professor in the Department of Sociology and an Adjunct Associate Professor in the Department of Community Health Sciences, Cumming School of Medicine, at the University of Calgary. She received a BA (Hons) in Social and Political Sciences from Cambridge, an MA in Anthropology from Berkeley, and an MA and PhD in Sociology from the University of North Carolina, Chapel Hill. Trained as a quantitative sociologist, she uses demographic and social network analytic techniques to examine the processes which lead to and perpetuate social inequalities in health. She has experience analyzing large, population-level datasets and administrative data, and collecting and analyzing both whole and ego-centred social network data. She is a popular undergraduate teacher and an award-winning graduate supervisor.

Dr. Godley is also the Chair of the Conjoint Faculties Research Ethics Board at the University of Calgary and has a particular interest in the ethical issues which arise when collecting social network data. More information about her work can be found at: https://soci.ucalgary.ca/profiles/jenny-godley

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