Designing Empirical Social Networks Research

A user-friendly introductory guide to the empirical study of social networks. Jennifer M. Larson presents the fundamentals of social networks in an intuition-forward way that guides theory-driven research design. Substantial attention is devoted to a framework for developing a network theory that will steer data collection to be maximally informative and minimally frustrating.

Other features include: coverage of a range of practical topics including selecting operationalizations, cutting survey costs, and cleaning data; a tutorial for getting started in analyzing networks in R; and technical sections full of examples, points to hone intuition, and practice problems with solutions.

Designing Empirical Social Networks Research will be a valuable tool for advanced undergraduates, PhD students in the social sciences, especially political science, and researchers across the social sciences who are new to the study of networks.

Jennifer M. Larson is Associate Professor in the Department of Political Science at Vanderbilt University.

"A terrific explainer of how to study social networks by one of the stars of the field."

David Lazer
University Distinguished Professor, Northeastern University

"This book delivers exactly what the title promises by providing clear, concise, step-by-step guidance for designing empirical social networks research. Larson introduces readers to the conceptual language necessary to theorize the role and nature of networks, and explains how to analyze networks empirically. The book will be an invaluable resource for social scientists interested in adding social networks research to their toolkit."

Imke Harbers
Associate Professor of Political Science, the University of Amsterdam

"Much has been written about the analysis of network data, but the field has lacked a comprehensive guide to the design of network research until now. Particularly important in Larson's book is the focus on developing a sound network theory and using that to guide the rest of the process, from data gathering and processing to analysis. With practical examples from an experienced field researcher throughout, this book is a definitive reference for those embarking on network research."

Skyler J. Cranmer
Carter Phillips and Sue Henry Professor and Director,
Machine Intelligence and Data Science (MIDS) Laboratory,
The Ohio State University

Methods for Social Inquiry

The *Methods for Social Inquiry* series comprises compact texts offering practical instructions for qualitative and multi-method research. Each book is accompanied by pedagogical data and exercises.

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The books are tightly integrated with digital content and online enhancements through the Qualitative Data Repository (QDR). QDR is a new NSF-funded repository housing digital data used in qualitative and multi-method social inquiry. The pedagogical data (and related documentation) that accompany the books in the series will be housed in QDR.

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Designing Empirical Social Networks Research

Jennifer M. Larson
Vanderbilt University

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Note on the Text

This book is primarily designed for (1) advanced undergraduates; (2) graduate students in the social sciences, especially political science; and (3) scholars who have some background in empirical research methods but who are new to the study of networks. Its goals are to introduce the fundamentals of the study of social networks and guide theory-driven research design.

Instructors of undergraduates may prefer to assign the first three chapters (which cover the basics of descriptive measures of network features) and perhaps also the eighth chapter (which is a tutorial for calculating these network features in R). Those teaching graduate students and planning their own research projects may want to add the middle four chapters as well (which cover how to formulate a network theory and use it to design data collection).

This book does not presume fluency in mathematical notation. That does not mean it omits the details. To the contrary, this book covers the fundamentals of structural and substantive network features that can be found in other textbooks aimed at audiences with more technical proficiency (Chapters 2 and 3). However, it does so by adding a lot of words around the mathematical expressions, referring to an abundance of examples, and presenting opportunities throughout to hone intuition. Readers looking for a terse mathematical presentation will be disappointed, but those looking for a rigorous yet intuition-forward presentation may prefer the level of the book.

This book also devotes substantial attention to the development of network theory (Chapters 4–6). It introduces a framework that should make both informal and formal theorizing about the role of networks easier. The framework's objective is to guide data collection so that an empirical project can be maximally informative (and minimally frustrating).

The section on data cleaning (Chapter 7) is particularly valuable to read before embarking on data collection, because it contains tips for avoiding onerous cleaning needs in the first place. Those who want an introduction to network analysis in R may find the tutorial in Chapter 8 useful, as it covers the initial steps of importing and formatting data as well as standard uses of the `igraph` package. And for those using this book as a jumping off point, Chapter 9 points to a variety of resources to assist in richer analyses, experimental designs, game theoretic approaches, and other next steps.