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Theory, Methods, and Applications

Edited by Dean Lusher , Johan Koskinen , Garry Robins

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## Exponential Random Graph Models for Social Networks

Exponential random graph models (ERGMs) are increasingly applied to observed network data and are central to understanding social structure and network processes. The chapters in this edited volume provide the theoretical and methodological underpinnings of ERGMs, including models for univariate, multivariate, bipartite, longitudinal, and social influence-type ERGMs. Each method is applied in individual case studies illustrating how social science theories may be examined empirically using ERGMs. The authors supply the reader with sufficient detail to specify ERGMs, fit them to data with any of the available software packages, and interpret the results.

Dr. Dean Lusher is Lecturer in Sociology at Swinburne University of Technology. He works closely with leading methodologists to develop an intuitive understanding of exponential graph models, how they link to broader network theory, and how to fit them to real-life data. His research applications are directed at issues of social norms and social hierarchies.

Dr. Johan Koskinen is Lecturer in Social Statistics at the University of Manchester. He is a statistician working with modeling and inference for Social Science data. Focusing on social network data, Dr. Koskinen deals with generative models for different types of structures, such as longitudinal network data, networks nested in multilevel structures, and multilevel networks classified by affiliations.

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Mark Granovetter, Editor

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# Exponential Random Graph Models for Social Networks

*Theory, Methods, and Applications*

*Editors*

DEAN LUSHER

JOHAN KOSKINEN

GARRY ROBINS



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For  
Jo, Massimo, and Priscilla  
Pirkko  
Jane, and Olivia

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