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978-0-521-60097-2 - Models and Methods in Social Network Analysis

Edited by Peter J. Carrington, John Scott and Stanley Wasserman

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## Models and Methods in Social Network Analysis

*Models and Methods in Social Network Analysis* presents the most important developments in quantitative models and methods for analyzing social network data that have appeared during the 1990s. Intended as a complement to Wasserman and Faust's *Social Network Analysis: Methods and Applications*, it is a collection of original articles by leading methodologists reviewing recent advances in their particular areas of network methods. Reviewed are advances in network measurement, network sampling, the analysis of centrality, positional analysis or blockmodeling, the analysis of diffusion through networks, the analysis of affiliation or "two-mode" networks, the theory of random graphs, dependence graphs, exponential families of random graphs, the analysis of longitudinal network data, graphic techniques for exploring network data, and software for the analysis of social networks.

Peter J. Carrington is Professor of Sociology at the University of Waterloo and Editor of the *Canadian Journal of Criminology and Criminal Justice*. His main teaching and research interests are in the criminal and juvenile justice systems, social networks, and research methods and statistics. He has published articles in the *Canadian Journal of Criminology and Criminal Justice*, *American Journal of Psychiatry*, *Journal of Mathematical Sociology*, and *Social Networks*. He is currently doing research on police discretion, criminal and delinquent careers and networks, and the impact of the Youth Criminal Justice Act on the youth justice system in Canada.

John Scott is Professor of Sociology at the University of Essex. An active member of the British Sociological Association, he served as its president from 2001 until 2003. He has written more than fifteen books, including *Corporate Business and Capitalist Classes* (1997), *Social Network Analysis* (1991 and 2000), *Sociological Theory* (1995), and *Power* (2001). With James Fulcher, he is the author of the leading introductory textbook *Sociology* (1999 and 2003). He is a member of the Editorial Board of the *British Journal of Sociology* and is an Academician of the Academy of Learned Societies in the Social Sciences.

Stanley Wasserman is Rudy Professor of Sociology, Psychology, and Statistics at Indiana University. He has done research on methodology for social networks for thirty years. He has co-authored with Katherine Faust *Social Network Analysis: Methods and Applications*, published in 1994 in this series by Cambridge University Press, and has co-edited with Joseph Galaskiewicz *Social Network Analysis: Research in the Social and Behavioral Sciences* (1994). His work is recognized by statisticians, as well as social and behavioral scientists, worldwide. He is currently Book Review Editor of *Chance* and an Associate Editor of the *Journal of the American Statistical Association* and *Psychometrika*. He has also been a very active consultant and is currently Chief Scientist of Visible Path, an organizational network software firm.

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## Structural Analysis in the Social Sciences 27

Mark Granovetter, General editor

The series *Structural Analysis in the Social Sciences* presents approaches that explain social behavior and institutions by reference to relations among such concrete entities as persons and organizations. This contrasts with at least four other popular strategies: (a) reductionist attempts to explain by a focus on individuals alone; (b) explanations stressing the causal primacy of such abstract concepts as ideas, values, mental harmonies, and cognitive maps (thus, “structuralism” on the Continent should be distinguished from structural analysis in the present sense); (c) technological and material determination; and (d) explanation using “variables” as the main analytic concepts (as in the “structural equation” models that dominated much of the sociology of the 1970s), where structure is that connecting variables rather than actual social entities.

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# Models and Methods in Social Network Analysis

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We dedicate this volume to social network analysts everywhere, in the hope that they will find these chapters useful in their research.

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