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Collana	Wiley series in probability and statistics
Classificazione	MAT029000
Altri autori (Persone)	SongXin-Yuan
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Basic and Advanced Bayesian Structural Equation Modeling; Contents; About the authors; Preface; 1 Introduction; 1.1 Observed and latent variables; 1.2 Structural equation model; 1.3 Objectives of the book; 1.4 The Bayesian approach; 1.5 Real data sets and notation; Appendix 1.1: Information on real data sets; References; 2 Basic concepts and applications of structural equation models; 2.1 Introduction; 2.2 Linear SEMs; 2.2.1 Measurement equation; 2.2.2 Structural equation and one extension; 2.2.3 Assumptions of linear SEMs; 2.2.4 Model identification; 2.2.5 Path diagram 2.3 SEMs with fixed covariates 2.3.1 The model; 2.3.2 An artificial example; 2.4 Nonlinear SEMs; 2.4.1 Basic nonlinear SEMs; 2.4.2 Nonlinear SEMs with fixed covariates; 2.4.3 Remarks; 2.5 Discussion and conclusions; References; 3 Bayesian methods for estimating structural equation models; 3.1 Introduction; 3.2 Basic concepts of the Bayesian estimation and prior distributions; 3.2.1 Prior distributions; 3.2.2 Conjugate prior distributions in Bayesian analyses of SEMs; 3.3

Posterior analysis using Markov chain Monte Carlo methods; 3.4 Application of Markov chain Monte Carlo methods
3.5 Bayesian estimation via WinBUGS Appendix 3.1: The gamma, inverted gamma, Wishart, and inverted Wishart distributions and their characteristics; Appendix 3.2: The Metropolis-Hastings algorithm; Appendix 3.3: Conditional distributions $[Y,]$ and $[Y,]$; Appendix 3.4: Conditional distributions $[Y,]$ and $[Y,]$ in nonlinear SEMs with covariates; Appendix 3.5: WinBUGS code; Appendix 3.6: R2WinBUGS code; References; 4 Bayesian model comparison and model checking; 4.1 Introduction; 4.2 Bayes factor; 4.2.1 Path sampling; 4.2.2 A simulation study; 4.3 Other model comparison statistics
4.3.1 Bayesian information criterion and Akaike information criterion
4.3.2 Deviance information criterion; 4.3.3 L-measure; 4.4 Illustration;
4.5 Goodness of fit and model checking methods; 4.5.1 Posterior predictive p-value; 4.5.2 Residual analysis; Appendix 4.1: WinBUGS code; Appendix 4.2: R code in Bayes factor example; Appendix 4.3: Posterior predictive p-value for model assessment; References; 5 Practical structural equation models; 5.1 Introduction; 5.2 SEMs with continuous and ordered categorical variables; 5.2.1 Introduction; 5.2.2 The basic model; 5.2.3 Bayesian analysis
5.2.4 Application: Bayesian analysis of quality of life data 5.2.5 SEMs with dichotomous variables; 5.3 SEMs with variables from exponential family distributions; 5.3.1 Introduction; 5.3.2 The SEM framework with exponential family distributions; 5.3.3 Bayesian inference; 5.3.4 Simulation study; 5.4 SEMs with missing data; 5.4.1 Introduction; 5.4.2 SEMs with missing data that are MAR; 5.4.3 An illustrative example; 5.4.4 Nonlinear SEMs with nonignorable missing data; 5.4.5 An illustrative real example
Appendix 5.1: Conditional distributions and implementation of the MH algorithm for SEMs with continuous and ordered categorical variables

Sommario/riassunto

"This book introduces the Bayesian approach to SEMs, including the selection of prior distributions and data augmentation, and offers an overview of the subject's recent advances"--