Generalized Estimating Equations

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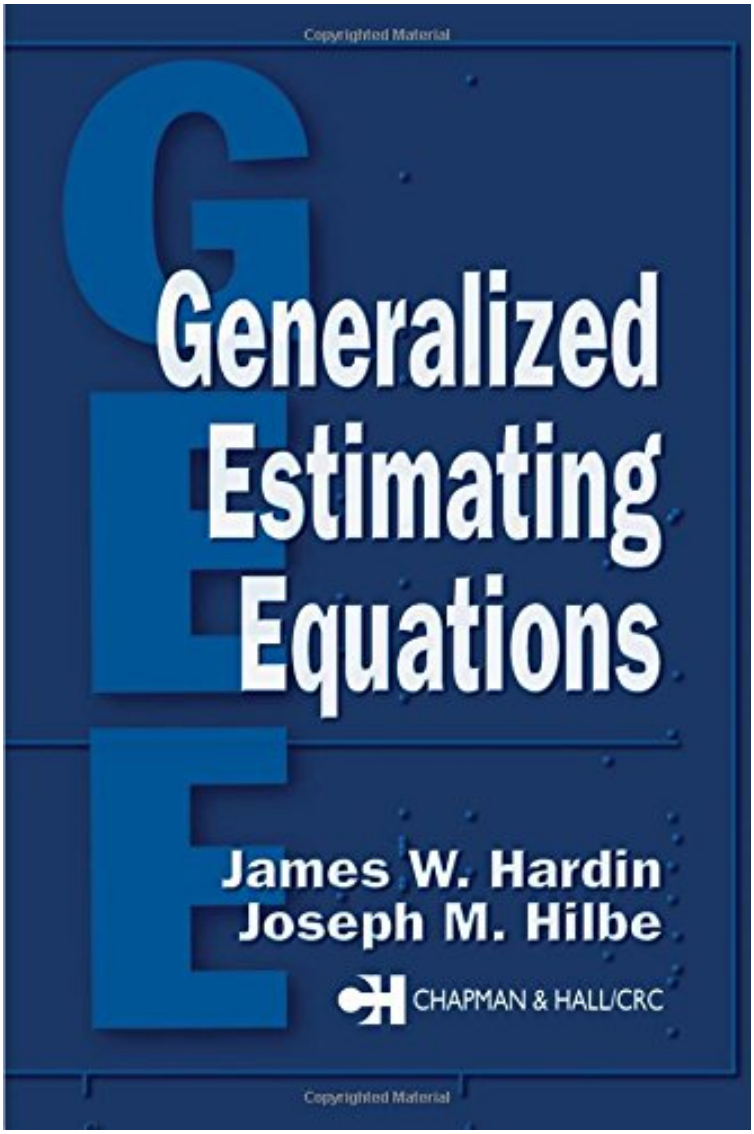

#2894986 in Books Chapman and Hall/CRC 2002-07-30Original language:EnglishPDF # 1 .73 x 6.10 x 9.70l, 1.11 #File Name: 1584883073240 pages | File size: 66.Mb

James W. Hardin, Joseph M. Hilbe : Generalized Estimating Equations before purchasing it in order to gage whether or not it would be worth my time, and all praised Generalized Estimating Equations:

0 of 0 people found the following review helpful. It was also wonderful ^^.By H. Anthony ChoThe book was delivered very promptly. It was also wonderful ^^.4 of 5 people found the following review helpful. Excellent, clearly writtenBy Russell BarbourI am just starting to apply GEE and this book is a must for getting a clear conceptual grasp of the subject and practical hands on demonstrations of how to apply it.27 of 28 people found the following review helpful. great book on a topic important to biostatisticians and containing details about computationBy Michael R.

ChernickGEE is an extension of the Generalized Linear Models that handles the correlation structure found in panel data and longitudinal or repeated measures analysis. The idea goes back to a paper by Zeger and Liang in 1986 and is well cover in their 1994 book with Diggle and its most recent revision. However, over the years the statistical packages have implemented GEE and variations of it in many different ways. This important new book not only provides a detailed description of GEE for theoreticians and practitioners but it also presents comparisons of how the various software products implement it. The packages include GLIM, SAS STAT/GENMOD, S-PLUS, Stata and RTI's product SUDAAN (designed specifically for survey data).This book is well written and comprehensive and will make a great reference book. It even provides a chapter on model diagnostics. Many examples are illustrated using the various software packages.As repeated measures or longitudinal data is very common in clinical trials this work is very imprtant and the text is a great reference for biostatisticians conducting clinical trials for pharmaceutical or medical device companies and for those in the medical research field that do such trials for research funding agencies.

Although powerful and flexible, the method of generalized linear models (GLM) is limited in its ability to accurately deal with longitudinal and clustered data. Developed specifically to accommodate these data types, the method of Generalized Estimating Equations (GEE) extends the GLM algorithm to accommodate the correlated data encountered in health research, social science, biology, and other related fields.Generalized Estimating Equations provides the first complete treatment of GEE methodology in all of its variations. After introducing the subject and reviewing GLM, the authors examine the different varieties of generalized estimating equations and compare them with other methods, such as fixed and random effects models. The treatment then moves to residual analysis and goodness of fit, demonstrating many of the graphical and statistical techniques applicable to GEE analysis.With its careful balance of origins, applications, relationships, and interpretation, this book offers a unique opportunity to gain a full understanding of GEE methods, from their foundations to their implementation. While equally valuable to theorists, it includes the mathematical and algorithmic detail researchers need to put GEE into practice.

These are well written chapters . The book contains challenging problems in exercises and is suitable to be a text book in a graduate level course on estimating functions. The references are up-to-date and exhaustive. I enjoyed reading [this book] and recommend [it] very highly to the statistical community. - Journal of Statistical Computation and Simulation, Vol. 75, No. 2, Feb. 2005[The book] is comprehensive and covers much useful material with formulas presented in detailthis is a useful and recommendable book both for those who already work with GEE methods and for newcomers to the field. Statistics in Medicine, 2004Generalized Estimating Equations is the first and only book to date dedicated exclusively to generalized estimating equations (GEE). I find it to be a good reference text for anyone using generalized linear models (GLIM).The authors do a good job of not only presenting the general theory of GEE models, but also giving explicit examples of various correlation structures, link functions and a comparison between population-averaged and subject-specific models. Furthermore, there are sections on the analysis of residuals, deletion diagnostics, goodness-of-fit criteria, and hypothesis testing.