Frailty Models in Survival Analysis (Chapman Hall/CRC Biostatistics Series)

Andreas Wienke
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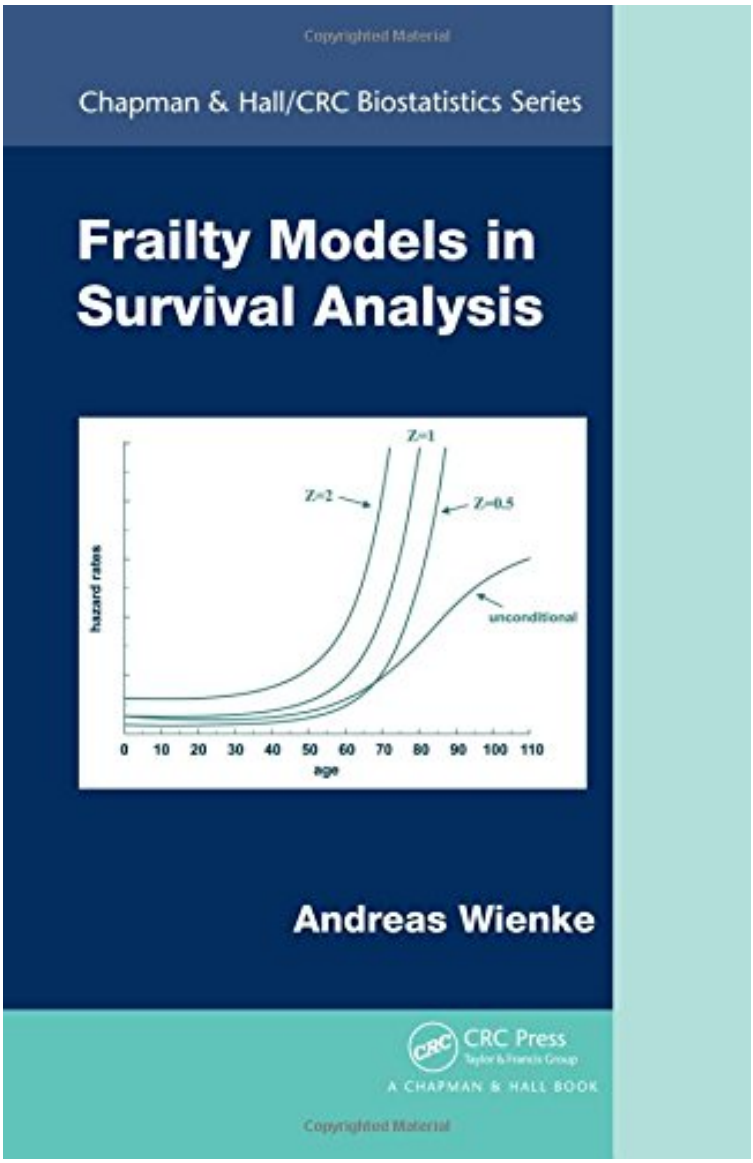

#3116823 in Books Andreas Wienke 2010-07-26Original language:EnglishPDF # 1 9.21 x .75 x 6.14l, 1.25 #File Name: 1420073885324 pagesFrailty Models in Survival Analysis | File size: 32.Mb

Andreas Wienke : Frailty Models in Survival Analysis (Chapman Hall/CRC Biostatistics Series) before purchasing it in order to gage whether or not it would be worth my time, and all praised Frailty Models in Survival Analysis (Chapman Hall/CRC Biostatistics Series):

1 of 1 people found the following review helpful. an imprtant special topic in survival analysisBy Michael R.

ChernickWhen we deal with a population of patients we usually assume that their survival or time to event is represented by a single survival function (or hazard function). But often it is more realistic to think that there may be subgroups of the population that are more likely to have an event in a given time period than other groups. This group may be more error prone so to speak or more frail. This is a simple recognition of heterogeneity within a population just like we sometimes have to think of a covariate in a regression model that indicates more variability for some cases than for others. I first noticed the topic in Phil Hougaards book on multivariate survival methods that came outn in 2000. Weinke's book is one of a few new books devoted completely to frailty models (another is Duchateau and Janssen (2008)). This book has an extensive bibliography on recent research in frailty modeling as well as thorough coverage of the major historical papers on survival analysis in general.It covers univariate frailty models, correlated frailty models and copulas. It is very modern and current, The author also shows the reader how to implement frailty models using SAS, R or STATA.

The concept of frailty offers a convenient way to introduce unobserved heterogeneity and associations into models for survival data. In its simplest form, frailty is an unobserved random proportionality factor that modifies the hazard function of an individual or a group of related individuals. Frailty Models in Survival Analysis presents a comprehensive overview of the fundamental approaches in the area of frailty models. The book extensively explores how univariate frailty models can represent unobserved heterogeneity. It also emphasizes correlated frailty models as extensions of univariate and shared frailty models. The author analyzes similarities and differences between frailty and copula models; discusses problems related to frailty models, such as tests for homogeneity; and describes parametric and semiparametric models using both frequentist and Bayesian approaches. He also shows how to apply the models to real data using the statistical packages of R, SAS, and Stata. The appendix provides the technical mathematical results used throughout. Written in nontechnical terms accessible to nonspecialists, this book explains the basic ideas in frailty modeling and statistical techniques, with a focus on real-world data application and interpretation of the results. By applying several models to the same data, it allows for the comparison of their advantages and limitations under varying model assumptions. The book also employs simulations to analyze the finite sample size performance of the models.

Unlike previous books on this topic, this book has a special focus on correlated frailty models for bivariate survival data. A strength of the book is the wide variety of real datasets used to illustrate models and methods. This book will be a very useful reference for researchers in the area. The concise summaries of relevant literature that appear at intervals throughout the text are particularly valuable in this regard. I would recommend this book to specialists for the breadth of its coverage of the literature and to other readers seeking to sample the flavor of ongoing methodological research in frailty models.David Oakes, Biometrics, June 2012 There are very few books that focus on frailty models, with the most recent one authored by Duchateau and Janssen. The present book goes beyond its predecessors by focusing not only on univariate models but also on extensions to multivariate modelling where event times are clustered. The main contribution of the book is that it brings together the available methodology of frailty modelling in a single monograph. The presentation is quite clear and easily understood by both specialists and non-specialists. The non-technical approach makes the reader comprehend the material and at the same time understand the capabilities of the methods and models discussed. The inclusion of several examples makes the book much more attractive than its competitors. In conclusion, the book provides a comprehensive overview of frailty models and it is well written and easy to read and understand. It serves nicely the purpose for which it was written, namely to introduce and attract attention to various issues associated with the frailty models. The book is well suited primarily for bioscience practitioners but also for students, professionals, and researchers.Alex Karagrigoriou, Journal of Applied Statistics, 2011 In my opinion, this book is a comprehensive, authoritative reference on the use of frailty models in survival analysis. The author has identified the key issues from theoretical and practical points of view and has provided numerous references and applications. The use of the data sets was effective in illustrating the concepts. I recommend this book for anyone who would like to become familiar with the key principles and issues with the use of frailty models in survival analysisWilliam Mietlowski, Journal of Biopharmaceutical Statistics, Vol. 21, 2011 This book gives a detailed introduction to frailty models and their applications primarily in biomedical and epidemiological fields. The models are developed with real life data. This book may serve as a textbook for a Masters level (or early Ph.D.) course on frailty models. It also may serve as a good reference book for a specialist in survival analysis.Olga A. Korosteleva, Mathematical s, Issue 2011hAbout the AuthorAndreas Wienke is a docent in the Institute of Medical Epidemiology, Biostatistics, and Informatics at Martin-Luther-University Halle-Wittenberg in Germany. In addition to statistical consulting and teaching courses on biostatistics and epidemiology, Dr. Wienke plans, designs, and supervises clinical trials in the Universitys Coordination Centre of Clinical Trials.