

situations, employing software packages to perform computations, and being able to critique research in biomedical fields and not so much on theory and formulas. To accomplish this, the language must be accessible. An example of this is when explaining the Kaplan-Meier estimator, the authors describe the probability of surviving two years as, “Pr(surviving two years) = Pr(surviving one year) × Pr(surviving two years | having survived one year).” Such descriptions using words before introducing formulas will facilitate learning.

Another tact the authors have employed to balance theory and application is using “displays” to hold most of the important theoretical aspects of each statistical method. Hence, the formulas and statistical details are removed from the text and presented in a bullet point format. Considering multiple linear regression, details such as, “[t]he residual or error terms $\varepsilon_i, i = 1, 2, \dots, p$ are assumed to be independent random variables having a normal distribution with mean zero and constant variance σ^2 ,” and formulas such as

$$\hat{\beta} = (X'X)^{-1}X'y$$

are moved to displays and do not appear in the body of the text. These displays double as a rather convenient reference since all facts concerning a procedure are contained in a single box. While the text is not completely devoid of formulas, this presentation is effective in that the text flows much more like a nontechnical book. The only fault of these displays is that hurried readers might ignore them. I hope readers of this book will not de-emphasize the importance of the displays as crucial information often is contained within them.

Few books exist with a similar audience in mind. One with the same ideals is Dupont (2002). Major differences between this text and Dupont (2002) are that the latter uses Stata instead of SAS, includes exercises, and devotes a more significant portion of the book to survival analysis (specifically hazard function regression). Beyond these two texts, an instructor has the choice of using texts focused at a general biostatistics audience, for example, Glantz (2005) and Rosner (2005). While these books are both excellent, they do not cover all of the topics pertinent to biomedical researchers and do not use software as extensively.

In conclusion, Der and Everitt have written a quality text aimed at a specific demographic: biomedical researchers with a basic understanding of statistics who wish to learn more. This audience currently has two quality options with Dupont (2002) and this text. Both cover the statistical methods most relevant to biomedical researchers and make these methods accessible to those without an extensive statistical background. Either book should give biomedical researchers the necessary background to conduct some of their own statistical research, converse with statisticians about advanced methods, and critique others' research. Determining which text is preferable will most likely depend on the software package to be used (Stata or SAS) and whether the user requires homework exercises since none exist in this text.

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Dupont, W. D. (2002), *Statistical Modeling for Biomedical Researchers: A Simple Introduction to the Analysis of Complex Data*, Cambridge: Cambridge University Press.

Glantz, S. A. (2005), *Primer of Biostatistics* (6th ed.), New York: McGraw-Hill Medical.

Rosner, B. (2005), *Fundamentals of Biostatistics* (6th ed.), Pacific Grove, CA: Duxbury Press.

Sharpening Your SAS Skills.

Sunil GUPTA and Curt EDMONDS. Boca Raton, FL: Chapman & Hall/CRC, 2005, xiv+278 pp., \$59.95 (P), ISBN: 1-58488-501-7.

In this book, Gupta and Edmonds attempt to bridge the gaps between SAS manuals, introductory SAS books, and SAS books on specific statistical topics. This book does not attempt to teach SAS to the new user. I have used Delwiche and Slaughter (2003) for the last five years in two statistical programming courses. This book is very similar, and I would consider using it either as a textbook or a reference for the class. Gupta and Edmonds would not be appropriate for a student wishing to learn SAS from scratch by his or herself.

The authors do a very good job of presenting SAS code using comments, highlighting, and different fonts. Annotated output and log files are presented that show subtleties which would otherwise be lost. This book is divided into six chapters. At the end of each chapter is a very good set of homework questions. These would be very useful for practicing for the SAS Base Certification Exam. Answers to most of the questions are given in the appendix. My only suggestion here is the authors should say that these are not the only correct answers. The first chapter deals with accessing data. Thirteen pages deal with using Structured Query Language. I am not sure about the usefulness of this topic for this book's intended audience. Chapter 2 deals with creating data structures and is very well done. Chapter 3, which describes how to manage data, could have been slightly improved by including more statistical functions. Chapter 4 deals with generating reports and includes coverage of `proc report` and Output Delivery System usage, which are sometimes absent from other books. Both syntax errors and execution errors are discussed in Chapter 5. The final chapter presents enhancements to the latest major versions of SAS. A very good reference is provided at the end.

Overall I would recommend this book, especially for anyone with some previous SAS exposure. The greatest use could be for those studying for certification exams or other SAS courses. My only other complaint is that the topics the authors cover are somewhat selective. For example, there is no information given on SAS macro or interactive matrix language processing, two topics of substantial importance to many intermediate SAS users.

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REFERENCES

Delwiche, L. D., and Slaughter, S. (2003), *The Little SAS Book* (3rd ed.), Cary, NC: SAS Institute Inc.