

## Applied Survey Data Analysis

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*Readership:* Survey practitioners in various fields (social sciences, government, public health, and others).

The book arises out of consultancy and courses on survey research methodology conducted by the authors. Some basic knowledge of applied statistics is assumed, roughly in line with what a social scientist, for example, would typically be exposed to in their undergraduate degree course. The equation-count is quite low compared with many books on Statistics: the preference is for practical numerical demonstration, listing the required computer code, along with plenty of discussion of the detailed examples examined.

A review of the history of the subject plus some basic guidance for good practice is set out in the first chapter. Survey design, including simple random sampling, stratification, clustering, multistage sampling and weighting, are covered in Chapter 2. Inference is the focus in Chapters 3 and 4: finite populations, superpopulation models, estimation, testing, bias, and the overall conduct of analysis. Chapters 5 and 6 consider simple analyses of continuous responses (univariate and bivariate) and categorical variables (proportions and contingency tables). Regression (linear, binary, multinomial, and count data) is dealt with in Chapters 7–9. Subsequently, some more specialized areas are surveyed: survival analysis (Chapter 10), imputation for missing data (Chapter 11), and a variety of topics in Chapter 12 (Bayesian analysis, generalized linear mixed models, structural equation models, small area estimation, and non-parametric methods). As the authors point out, these are not subjects that commonly appear in treatments of survey sampling. Appendix A gives an extensive guide to available computer packages, Stata, SAS, SPSS, and SUDAAN in particular. In addition, there is a website containing supplementary material, code for the examples used in the book, and links for accessing recent publications, data sources, etc. Also, 7 of the 12 chapters have exercises for the reader at the end.

As can be seen from the above summary, there is a wealth of instruction here. The writing style is expansive, keeping mathematics in check, and the material is well organized clearly into appropriate sections. I think that the book would serve any budding survey practitioner well: armed with the knowledge and practical skills covered herein, plus some real-life experience of course, one could reasonably claim to be well qualified in the subject.

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