

1. Record Nr.	UNINA9910437866203321
Autore	Valliant Richard
Titolo	Practical Tools for Designing and Weighting Survey Samples / / by Richard Valliant, Jill A. Dever, Frauke Kreuter
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2013
ISBN	1-4614-6449-8
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (677 p.)
Collana	Statistics for Social and Behavioral Sciences, , 2199-7365 ; ; 51
Disciplina	519.52
Soggetti	Social sciences - Statistical methods Biometry Statistics Statistics in Social Sciences, Humanities, Law, Education, Behavioral Sciences, Public Policy Biostatistics Statistical Theory and Methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Designing Single-stage Sample Surveys -- Multistage Designs -- Survey Weights and Analyses -- Other Topics -- Appendices.
Sommario/riassunto	Survey sampling is fundamentally an applied field. The goal in this book is to put an array of tools at the fingertips of practitioners by explaining approaches long used by survey statisticians, illustrating how existing software can be used to solve survey problems, and developing some specialized software where needed. This book serves at least three audiences: (1) Students seeking a more in-depth understanding of applied sampling either through a second semester-long course or by way of a supplementary reference; (2) Survey statisticians searching for practical guidance on how to apply concepts learned in theoretical or applied sampling courses; and (3) Social scientists and other survey practitioners who desire insight into the statistical thinking and steps taken to design, select, and weight random survey samples. Several survey data sets are used to illustrate how to design samples, to make estimates from complex surveys for use in optimizing the sample allocation, and to calculate weights.

Realistic survey projects are used to demonstrate the challenges and provide a context for the solutions. The book covers several topics that either are not included or are dealt with in a limited way in other texts. These areas include: sample size computations for multistage designs; power calculations related to surveys; mathematical programming for sample allocation in a multi-criteria optimization setting; nuts and bolts of area probability sampling; multiphase designs; quality control of survey operations; and statistical software for survey sampling and estimation. An associated R package, PracTools, contains a number of specialized functions for sample size and other calculations. The data sets used in the book are also available in PracTools, so that the reader may replicate the examples or perform further analyses. Richard Valliant is a Research Professor at the Institute for Social Research of the University of Michigan and at the Joint Program in Survey Methodology at the University of Maryland. He is a Fellow of the American Statistical Association, an elected member of the International Statistical Institute, and has been an associate editor of the Journal of the American Statistical Association, Journal of Official Statistics, and Survey Methodology. Jill A. Dever is a Senior Research Statistician at RTI International in Washington, D.C. where she works on a variety of surveys related to health care and education. Her current research interests include software for optimizing complex sample designs, variance estimation using calibrated analysis weights, and methods to evaluate the utility of non-probability sampling. Frauke Kreuter is an Associate Professor in the Joint Program in Survey Methodology at the University of Maryland, USA; Professor of Statistics at Ludwig-Maximilians-Universität in Munich, Germany; and head of the Statistical Methods Research Department at the Institute for Employment Research (IAB) in Nürnberg, Germany. Currently she is associate editor of the Journal of the Royal Statistical Society, Journal of Official Statistics, Sociological Methods and Research, Survey Research Methods, and the Stata Journal.
