An Introduction To Categorical Data Analysis 2nd Edition Solution

This set contains: 9780471469445 A Step-by-Step Approach to Using SAS for Univariate & Multivariate Statistics, Second Edition by Norm O'Rourke, Larry Hatcher, Edward J. Stepanski, SAS Institute Inc and 9780471226185 An Introduction to Categorical Data Analysis, Second Edition by Alan Agresti.
An easily accessible introduction to log-linear modeling fornon-statisticians Highlighting advances that have lent to the topic's distinct,coherent methodology over the past decade, Log-Linear Modeling:Concepts, Interpretation, and Application provides anessential, introductory treatment of the subject, featuring manynew and advanced log-linear methods, models, and applications. The book begins with basic coverage of categorical data, andgoes on to describe the basics of hierarchical log-linear models aswell as decomposing effects in cross-classifications andgoodness-of-fit tests. Additional topics include: The generalized linear model (GLM) along with popular methodsof coding such as effect coding and dummy coding Parameter interpretation and how to ensure that the parametersreflect the hypotheses being studied Symmetry, rater agreement, homogeneity of association, logisticregression, and reduced designs models Throughout the book, real-world data illustrate the applicationof models and understanding of the related results. In addition,each chapter utilizes R, SYSTAT®, and §¤EM software,providing readers with an understanding of these programs in thecontext of hierarchical log-linear modeling. Log-Linear Modeling is an excellent book for courses oncategorical data analysis at the upper-undergraduate and graduatelevels. It also serves as an excellent reference for appliedresearchers in virtually any area of study, from medicine andstatistics to the social sciences, who analyze empirical data intheir everyday work.
Statistical science's first coordinated manual of methods for analyzing ordered categorical data, now fully revised and updated, continues to present applications and case studies in fields as diverse as sociology, public health, ecology, marketing, and pharmacy. Analysis of Ordinal Categorical Data, Second Edition provides an introduction to basic descriptive and inferential methods for categorical data, giving thorough coverage of new developments and recent methods. Special emphasis is placed on interpretation and application of methods including an integrated comparison of the available strategies for analyzing ordinal data. Practitioners of statistics in government, industry (particularly pharmaceutical), and academia will want this new edition.
Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9780471226185 .
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places, and events. Cram101 Just the FACTS101 studyguides gives all of the outlines, highlights, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanies: 9780872893795. This item is printed on demand.

This three book set features: An Introduction to Categorical Data Analysis, Second Edition (978-0-471-22618-5) , Categorical Data Analysis, Second Edition (978-0-471-36093-3) , and Analysis of Ordinal Categorical Data (978-0-471-89055-3).

A unique and timely monograph, Visualization of Categorical Data contains a useful balance of theoretical and practical material on this important new area. Top researchers in the field present the books four main topics: visualization, correspondence analysis, biplots and multidimensional scaling, and contingency table models. This volume discusses how surveys, which are employed in many different research areas, generate categorical data. It will be of great interest to anyone involved in collecting or analyzing categorical data. * Correspondence Analysis * Homogeneity Analysis * Loglinear and Association Models * Latent Class Analysis * Multidimensional Scaling * Cluster Analysis * Ideal Point Discriminant Analysis * CHAID * Formal Concept Analysis * Graphical Models Categorical data are quantified as either nominal variables--distinguishing different groups, for example, based on socio-economic status, education, and political persuasion--or ordinal variables--distinguishing levels of interest, such as the preferred politician or the preferred type of punishment for committing burglary. This new book is a collection of up-to-date studies on modern categorical data analysis methods, emphasizing their application to relevant and interesting data sets. This volume concentrates on latent class analysis and item response theory. These methods use latent variables to explain the relationships among observed categorical variables. Latent class analysis yields the classification of a group of respondents according to their pattern of scores on the categorical variables. This provides insight into the mechanisms producing the data and allows the estimation of factor structures and regression models conditional on the latent class structure. Item response theory leads to the identification of one or more ordinal or interval scales. In psychological and educational testing these scales are used for individual measurement of abilities and personality traits. The focus of this volume is applied. After a method is explained, the potential of the method for analyzing categorical data is illustrated by means of a real data example to show how it can be used effectively for solving a real data problem. These methods are accessible to researchers not trained explicitly in applied statistics. This volume appeals to researchers and advanced students in the social and behavioral sciences, including social, developmental, organizational, clinical and health psychologists, sociologists, educational and marketing researchers, and political scientists. In addition, it is of interest to those who collect data on categorical variables and are faced with the problem of how to analyze such variables--among themselves or in relation to metric variables.

This book deals with the analysis of categorical data. Statistical models, especially log-linear models for contingency tables and logistic regression, are described and applied to real life data. Special emphasis is given to the use of graphical methods. The book is

intended as a text for both undergraduate and graduate courses for statisticians, applied statisticians, social scientists, economists and epidemiologists. Many examples and exercises with solutions should help the reader to understand the material. A comprehensive resource for analyzing a variety of categorical data, this book emphasizes the application of many recent advances of longitudinal categorical statistical methods. Each chapter provides basic methodology, helpful applications, examples using data from all fields of the social sciences, computer tutorials, and exercises. Written for social scientists and students, no advanced mathematical training is required. Step-by-step command files are given for both the CDAS and the SPSS software programs. Statisticians and researchers will find Categorical Data Analysis Using SAS, Third Edition, by Maura Stokes, Charles Davis, and Gary Koch, to be a useful discussion of categorical data analysis techniques as well as an invaluable aid in applying these methods with SAS. Practical examples from a broad range of applications illustrate the use of the FREQ, LOGISTIC, GENMOD, NPAR1WAY, and CATMOD procedures in a variety of analyses. Topics discussed include assessing association in contingency tables and sets of tables, logistic regression and conditional logistic regression, weighted least squares modeling, repeated measurements analyses, loglinear models, generalized estimating equations, and bioassay analysis. The third edition updates the use of SAS/STAT software to SAS/STAT 12.1 and incorporates ODS Graphics. Many additional SAS statements and options are employed, and graphs such as effect plots, odds ratio plots, regression diagnostic plots, and agreement plots are discussed. The material has also been revised and reorganized to reflect the evolution of categorical data analysis strategies. Additional techniques include such topics as exact Poisson regression, partial proportional odds models, Newcombe confidence intervals, incidence density ratios, and so on. This book is part of the SAS Press program. Praise for the First Edition "This is a superb text from which to teach categorical data analysis, at a variety of levels. . . [t]his book can be very highly recommended." —Short Book Reviews "Of great interest to potential readers is the variety of fields that are represented in the examples: health care, financial, government, product marketing, and sports, to name a few." —Journal of Quality Technology "Alan Agresti has written another brilliant account of the analysis of categorical data." —The Statistician The use of statistical methods for categorical data is ever increasing in today's world. An Introduction to Categorical Data Analysis, Second Edition provides an applied introduction to the most important methods for analyzing categorical data. This new edition summarizes methods that have long played a prominent role in data analysis, such as chi-squared tests, and also places special emphasis on logistic regression and other modeling techniques for univariate and correlated multivariate categorical responses. This Second Edition features: Two new chapters on the methods for clustered data, with an emphasis on generalized estimating equations (GEE) and random effects models A unified perspective based on generalized linear models An emphasis on logistic regression modeling An appendix that demonstrates the use of SAS(r) for all methods An entertaining historical perspective on the development of the methods Specialized methods for ordinal data, small samples, multicategory data, and matched pairs More than 100 analyses of real data sets and nearly 300 exercises Written in an applied, nontechnical style, the book illustrates methods using a wide

variety of real data, including medical clinical trials, drug use by teenagers, basketball shooting, horseshoe crab mating, environmental opinions, correlates of happiness, and much more. An Introduction to Categorical Data Analysis, Second Edition is an invaluable tool for social, behavioral, and biomedical scientists, as well as researchers in public health, marketing, education, biological and agricultural sciences, and industrial quality control.

Until recent years the statistical and computational techniques available for the analysis of cross-classified data were quite limited. This book presents some of the recent work on the statistical analysis of cross-classified data using longlinear models.

This book provides a comprehensive introduction to methods and models for categorical data analysis and their applications in social science research. Companion website also available, at https://webspace.utexas.edu/dpowers/www/

Amstat News asked three review editors to rate their topfive favorite books in the September 2003 issue. CategoricalData Analysis was among those chosen. A valuable new edition of a standard reference "A 'must-have' book for anyone expecting to do research and/orapplications in categorical data analysis." –Statistics in Medicine on Categorical Data Analysis,First Edition The use of statistical methods for categorical data hasincreased dramatically, particularly for applications in thebiomedical and social sciences. Responding to new developments inthe field as well as to the needs of a new generation ofprofessionals and students, this new edition of the classicCategorical Data Analysis offers a comprehensiveintroduction to the most important methods for categorical dataanalysis. Designed for statisticians and biostatisticians as well asscientists and graduate students practicing statistics,Categorical Data Analysis, Second Edition summarizes thelatest methods for univariate and correlated multivariatecategorical responses. Readers will find a unified generalizedlinear models approach that connects logistic regression andPoisson and negative binomial regression for discrete data withnormal regression for continuous data. Adding to the value in thenew edition is coverage of: Three new chapters on methods for repeated measurement andother forms of clustered categorical data, including marginalmodels and associated generalized estimating equations (GEE)methods, and mixed models with random effects Stronger emphasis on logistic regression modeling of binaryand multicategory data An appendix showing the use of SAS for conducting nearly allanalyses in the book Prescriptions for how ordinal variables should be treateddifferently than nominal variables Discussion of exact small-sample procedures More than 100 analyses of real data sets to illustrateapplication of the methods, and more than 600 exercises An Instructor's Manual presenting detailed solutions to allthe problems in the book is available from the Wiley editorialdepartment.

Learn How to Properly Analyze Categorical Data Analysis of Categorical Data with R presents a modern account of categorical data analysis using the popular R software. It covers recent techniques of model building and assessment for binary, multicategory, and count response variables and discusses fundamentals, such as odds ratio and probability estimation. The authors give detailed advice

and guidelines on which procedures to use and why to use them. The Use of R as Both a Data Analysis Method and a Learning Tool Requiring no prior experience with R, the text offers an introduction to the essential features and functions of R. It incorporates numerous examples from medicine, psychology, sports, ecology, and other areas, along with extensive R code and output. The authors use data simulation in R to help readers understand the underlying assumptions of a procedure and then to evaluate the procedure's performance. They also present many graphical demonstrations of the features and properties of various analysis methods. Web Resource The data sets and R programs from each example are available at www.chrisbilder.com/categorical. The programs include code used to create every plot and piece of output. Many of these programs contain code to demonstrate additional features or to perform more detailed analyses than what is in the text. Designed to be used in tandem with the book, the website also uniquely provides videos of the authors teaching a course on the subject. These videos include live, in-class recordings, which instructors may find useful in a blended or flipped classroom setting. The videos are also suitable as a substitute for a short course.

Introduces the key concepts in the analysis of categoricaldata with illustrative examples and accompanying R code This book is aimed at all those who wish to discover how to analyze categorical data without getting immersed in complicated mathematics and without needing to wade through a large amount of prose. It is aimed at researchers with their own data ready to be analyzed and at students who would like an approachable alternative view of the subject. Each new topic in categorical data analysis is illustrated with an example that readers can apply to their own sets of data. In many cases, R code is given and excerpts from the resulting output are presented. In the context of log-linear models for cross-tabulations, two specialties of the house have been included: the use of cobweb diagrams to get visual information concerning significant interactions, and a procedure for detecting outlier category combinations. The R code used for these is available and may be freely adapted. In addition, this book: • Uses an example to illustrate each new topic in categorical data • Provides a clear explanation of an important subject • Is understandable to most readers with minimal statistical and mathematical backgrounds • Contains examples that are accompanied by R code and resulting output • Includes starred sections that provide more background details for interested readers Categorical Data Analysis by Example is a reference for students in statistics and researchers in other disciplines, especially the social sciences, who use categorical data. This book is also a reference for practitioners in market research, medicine, and other fields. GRAHAM J. G. UPTON is formerly Professor of Applied Statistics, Department of Mathematical Sciences, University of Essex. Dr. Upton is author of The Analysis of Cross-tabulated Data (1978) and joint author of Spatial Data Analysis by Example (2 volumes, 1995), both published by Wiley. He is the lead author of The Oxford Dictionary of Statistics (OUP, 2014). His books have been translated

into Japanese, Russian, and Welsh.

This is the first book in longitudinal categorical data analysis with parametric correlation models developed based on dynamic relationships among repeated categorical responses. This book is a natural generalization of the longitudinal binary data analysis to the multinomial data setup with more than two categories. Thus, unlike the existing books on cross-sectional categorical data analysis using log linear models, this book uses multinomial probability models both in cross-sectional and longitudinal setups. A theoretical foundation is provided for the analysis of univariate multinomial responses, by developing models systematically for the cases with no covariates as well as categorical covariates, both in cross-sectional and longitudinal setups. In the longitudinal setup, both stationary and non-stationary covariates are considered. These models have also been extended to the bivariate multinomial setup along with suitable covariates. For the inferences, the book uses the generalized quasi-likelihood as well as the exact likelihood approaches. The book is technically rigorous, and, it also presents illustrations of the statistical analysis of various real life data involving univariate multinomial responses both in cross-sectional and longitudinal setups. This book is written mainly for the graduate students and researchers in statistics and social sciences, among other applied statistics research areas. However, the rest of the book, specifically the chapters from 1 to 3, may also be used for a senior undergraduate course in statistics.

Praise for the Second Edition "A must-have book for anyone expecting to do research and/orapplications in categorical data analysis." —Statistics in Medicine "It is a total delight reading this book." —Pharmaceutical Research "If you do any analysis of categorical data, this is anessential desktop reference." —Technometrics The use of statistical methods for analyzing categorical datahas increased dramatically, particularly in the biomedical, socialsciences, and financial industries. Responding to new developments,this book offers a comprehensive treatment of the most importantmethods for categorical data analysis. Categorical Data Analysis, Third Edition summarizes thelatest methods for univariate and correlated multivariatecategorical responses. Readers will find a unified generalizedlinear models approach that connects logistic regression andPoisson and negative binomial loglinear models for discrete datawith normal regression for continuous data. This edition alsofeatures: An emphasis on logistic and probit regression methods forbinary, ordinal, and nominal responses for independent observationsand for clustered data with marginal models and random effectsmodels Two new chapters on alternative methods for binary responsedata, including smoothing and regularization methods,classification methods such as linear discriminant analysis andclassification trees, and cluster analysis New sections introducing the Bayesian approach for methods inthat chapter More than 100 analyses of data sets and over 600 exercises Notes at the end of each chapter that provide references torecent research and topics not covered in the text, linked to abibliography of more than 1,200 sources A

supplementary website showing how to use R and SAS; for allexamples in the text, with information also about SPSS and Stataand with exercise solutions Categorical Data Analysis, Third Edition is an invaluabletool for statisticians and methodologists, such as biostatisticiansand researchers in the social and behavioral sciences, medicine andpublic health, marketing, education, finance, biological andagricultural sciences, and industrial quality control. Categorical data arise often in many fields, including biometrics, economics, management, manufacturing, marketing, psychology, and sociology. This book provides an introduction to the analysis of such data. The coverage is broad, using the loglinear Poisson regression model and logistic binomial regression models as the primary engines for methodology. Topics covered include count regression models, such as Poisson, negative binomial, zero-inflated, and zero-truncated models; loglinear models for two-dimensional and multidimensional contingency tables, including for square tables and tables with ordered categories; and regression models for two-category (binary) and multiple-category target variables, such as logistic and proportional odds models. All methods are illustrated with analyses of real data examples, many from recent subject area journal articles. These analyses are highlighted in the text, and are more detailed than is typical, providing discussion of the context and background of the problem, model checking, and scientific implications. More than 200 exercises are provided, many also based on recent subject area literature. Data sets and computer code are available at a web site devoted to the text. Adopters of this book may request a solutions manual from: textbook@springer-ny.com. From the reviews: "Jeff Simonoff's book is at the top of the heap of categorical data analysis textbooks...The examples are superb. Student reactions in a class I taught from this text were uniformly positive, particularly because of the examples and exercises. Additional materials related to the book, particularly code for S-Plus, SAS, and R, useful for analysis of examples, can be found at the author's Web site at New York University. I liked this book for this reason, and recommend it to you for pedagogical purposes." (Stanley Wasserman, The American Statistician, August 2006, Vol. 60, No. 3) "The book has various noteworthy features. The examples used are from a variety of topics, including medicine, economics, sports, mining, weather, as well as social aspects like needle-exchange programs. The examples motivate the theory and also illustrate nuances of data analytical procedures. The book also incorporates several newer methods for analyzing categorical data, including zero-inflated Poisson models, robust analysis of binomial and poisson models, sandwich estimators, multinomial smoothing, ordinal agreement tables...this is definitely a good reference book for any researcher working with categorical data." Technometrics, May 2004 "This guide provides a practical approach to the appropriate analysis of categorical data and would be a suitable purchase for individuals with varying levels of statistical understanding." Paediatric and Perinatal Epidemiology, 2004, 18 "This book gives a fresh approach to the topic of categorical data analysis.

The presentation of the statistical methods exploits the connection to regression modeling with a focus on practical features rather than formal theory...There is much to learn from this book. Aside from the ordinary materials such as association diagrams, Mantel-Haenszel estimators, or overdispersion, the reader will also find some less-often presented but interesting and stimulating topics...[T]his is an excellent book, giving an up-to-date introduction to the wide field of analyzing categorical data." Biometrics, September 2004 "...It is of great help to data analysts, practitioners and researchers who deal with categorical data and need to get a necessary insight into the methods of analysis as well as practical guidelines for solving problems." International Journal of General Systems, August 2004 "The author has succeeded in writing a useful and readable textbook combining most of general theory and practice of count data." Kwantitatieve Methoden "The book especially stresses how to analyze and interpret data...In fact, the highly detailed multi-page descriptions of analysis and interpretation make the book stand out." Mathematical Geology, February 2005 "Overall, this is a competent and detailed text that I would recommend to anyone dealing with the analysis of categorical data." Journal of the Royal Statistical Society "This important work allows for clear analogies between the well-known linear models for Gaussian data and categorical data problems. ... Jeffrey Simonoff's Analyzing Categorical Data provides an introduction to many of the important ideas and methods for understanding counted data and tables of counts. ... Some readers will find Simonoff's style very much to their liking due to reliance on extended real data examples to illuminate ideas. ... I think the extensive examples will appeal to most students." (Sanford Weisberg, SIAM Review, Vol. 47 (4), 2005) "It is clear that the focus of Simonoff's book is different from other books on categorical data analysis. ... As an introductory textbook, the book is comprehensive enough since all basic topics in categorical data analysis are discussed. ... I think Simonoff's book is a valuable addition to the literature because it discusses important models for counts ... ." (Jeroen K. Vermunt, Statistics in Medicine, Vol. 24, 2005) "The author based this book on his notes for a class with a very diverse pool of students. The material is presented in such a way that a very heterogeneous group of students could grasp it. All methods are illustrated with analyses of real data examples. The author provides a detailed discussion of the context and background of the problem. ... The book is very interesting and can be warmly recommended to people working with categorical data." (EMS - European Mathematical Society Newsletter, December, 2004) "Categorical data arise often in many fields ... . This book provides an introduction to the analysis of such data. ... All methods are illustrated with analyses of real data examples, many from recent subject-area journal articles. These analyses are highlighted in the text and are more detailed than is typical ... . More than 200 exercises are provided, including many based on recent subject-area literature. Data sets and computer code are available at a Web site devoted to this text." (T. Postelnicu, Zentralblatt MATH,

Vol. 1028, 2003) "This book grew out of notes prepared by the author for classes in categorical data analysis. The presentation is fresh and compelling to read. Regression ideas are used to motivate the modelling presented. The book focuses on applying methods to real problems; many of these will be novel to readers of statistics texts ... . All chapters end with a section providing references to books or articles for the inquiring reader." (C.M. O'Brien, Short Book Reviews, Vol. 23 (3), 2003)

Categorical data-comprising counts of individuals, objects, or entities in different categories-emerge frequently from many areas of study, including medicine, sociology, geology, and education. They provide important statistical information that can lead to real-life conclusions and the discovery of fresh knowledge. Therefore, the ability to manipulate, understand, and interpret categorical data becomes of interest-if not essential-to professionals and students in a broad range of disciplines. Although t-tests, linear regression, and analysis of variance are useful, valid methods for analysis of measurement data, categorical data requires a different methodology and techniques typically not encountered in introductory statistics courses. Developed from long experience in teaching categorical analysis to a multidisciplinary mix of undergraduate and graduate students, A Course in Categorical Data Analysis presents the easiest, most straightforward ways of extracting real-life conclusions from contingency tables. The author uses a Fisherian approach to categorical data analysis and incorporates numerous examples and real data sets. Although he offers S-PLUS routines through the Internet, readers do not need full knowledge of a statistical software package. In this unique text, the author chooses methods and an approach that nurtures intuitive thinking. He trains his readers to focus not on finding a model that fits the data, but on using different models that may lead to meaningful conclusions. The book offers some simple, innovative techniques not highlighted in other texts that help make the book accessible to a broad, interdisciplinary audience. A Course in Categorical Data Analysis enables readers to quickly use its offering of tools for drawing scientific, medical, or real-life conclusions from categorical data sets.

Introduction to categorical data analysis procedures.

The use of Bayesian methods for the analysis of data has grown substantially in areas as diverse as applied statistics, psychology, economics and medical science. Bayesian Methods for Categorical Data sets out to demystify modern Bayesian methods, making them accessible to students and researchers alike. Emphasizing the use of statistical computing and applied data analysis, this book provides a comprehensive introduction to Bayesian methods of categorical outcomes. * Reviews recent Bayesian methodology for categorical outcomes (binary, count and multinomial data). * Considers missing data models techniques and non-standard models (ZIP and negative binomial). * Evaluates time series and spatio-temporal models for discrete data. * Features discussion of univariate and multivariate techniques. * Provides a set of downloadable

worked examples with documented WinBUGS code, available from an ftp site. The author's previous 2 bestselling titles provided a comprehensive introduction to the theory and application of Bayesian models. Bayesian Models for Categorical Data continues to build upon this foundation by developing their application to categorical, or discrete data - one of the most common types of data available. The author's clear and logical approach makes the book accessible to a wide range of students and practitioners, including those dealing with categorical data in medicine, sociology, psychology and epidemiology. Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9780471113386 .

This textbook provides an introduction to the free software Python and its use for statistical data analysis. It covers common statistical tests for continuous, discrete and categorical data, as well as linear regression analysis and topics from survival analysis and Bayesian statistics. Working code and data for Python solutions for each test, together with easy-to-follow Python examples, can be reproduced by the reader and reinforce their immediate understanding of the topic. With recent advances in the Python ecosystem, Python has become a popular language for scientific computing, offering a powerful environment for statistical data analysis and an interesting alternative to R. The book is intended for master and PhD students, mainly from the life and medical sciences, with a basic knowledge of statistics. As it also provides some statistics background, the book can be used by anyone who wants to perform a statistical data analysis. A valuable overview of the most important ideas and results in statistical modeling Written by a highly-experienced author, Foundations of Linear and Generalized Linear Models is a clear and comprehensive guide to the key concepts and results of linearstatistical models. The book presents a broad, in-depth overview of the most commonly usedstatistical models by discussing the theory underlying the models, R software applications,and examples with crafted models to elucidate key ideas and promote practical modelbuilding. The book begins by illustrating the fundamentals of linear models, such as how the model-fitting projects the data onto a model vector subspace and how orthogonal decompositions of the data yield information about the effects of explanatory variables. Subsequently, the book covers the most popular generalized linear models, which include binomial and multinomial logistic regression for categorical data, and Poisson and negative binomial loglinear models for count data. Focusing on the theoretical underpinnings of these models, Foundations ofLinear and Generalized Linear Models also features: An introduction to quasi-likelihood methods that require weaker distributional assumptions, such as generalized estimating equation methods An overview of linear mixed models and generalized linear mixed models with random effects for clustered correlated

data, Bayesian modeling, and extensions to handle problematic cases such as high dimensional problems Numerous examples that use R software for all text data analyses More than 400 exercises for readers to practice and extend the theory, methods, and data analysis A supplementary website with datasets for the examples and exercises An invaluable textbook for upper-undergraduate and graduate-level students in statistics and biostatistics courses, Foundations of Linear and Generalized Linear Models is also an excellent reference for practicing statisticians and biostatisticians, as well as anyone who is interested in learning about the most important statistical models for analyzing data. Categorical Statistics for CommunicationResearch presents scholars with a discipline-specific guide to categorical data analysis. The text blends necessary background information and formulas for statistical procedures with data analyses illustrating techniques such as log- linear modeling and logistic regression analysis. Provides techniques for analyzing categorical data from a communication studies perspective Provides an accessible presentation of techniques for analyzing categorical data for communication scholars and other social scientists working at the advanced undergraduate and graduate teaching levels Illustrated with examples from different types of communication research such as health, political and sports communication and entertainment Includes exercises at the end of each chapter and a companion website containing exercise answers and chapter-by-chapter PowerPoint slides Featuring a practical approach with numerous examples, this book focuses on helping the reader develop a conceptual, rather than technical, understanding of categorical methods, making it a much more accessible text than others on the market. The authors cover common categorical analyses and emphasize specific research questions that can be addressed by each analytic procedure so that readers are able to address the research questions they wish to answer. To achieve this goal, the authors: Review the theoretical implications and assumptions underlying each of the procedures Present each concept in general terms and illustrate each with a practical example Demonstrate the analyses using SPSS and SAS and show the interpretation of the results provided by these programs. A "Look Ahead" section at the beginning of each chapter provides an overview of the material covered so that the reader knows what to expect. This is followed by one or more research questions that can be addressed using the procedure(s) covered in the chapter. A theoretical presentation of the material is provided and illustrated using realistic examples from the behavioral and social sciences. To further enhance accessibility, the new procedures introduced in the book are explicitly related to analytic procedures covered in earlier statistics courses, such as ANOVA and linear regression. Throughout each chapter the authors use practical examples to demonstrate how to obtain and interpret statistical output in both SPSS and SAS. Their emphasis on the relationship between the initial research question, the use of the software to carry out the analysis, and the interpretation of the output as it

relates to the initial research question, allows readers to easily apply the material to their own research. The data sets for executing chapter examples using SAS Version 9.1.3 and/or IBM SPSS Version 18 are available on a book specific web site. These data sets and syntax allow readers to quickly run the programs and obtain the appropriate output. The book also includes both conceptual and analytic end-of-chapter exercises to assist instructors and students in evaluating the understanding of the material covered in each chapter. This book covers the most commonly used categorical data analysis procedures. It is written for those without an extensive mathematical background, and is ideal for graduate courses in categorical data analysis or cross-classified data analysis taught in departments of psychology, human development & family studies, sociology, education, and business. Researchers in these disciplines interested in applying these procedures to their own research will appreciate this book's accessible approach.

A valuable new edition of a standard reference The use of statistical methods for categorical data has increased dramatically, particularly for applications in the biomedical and social sciences. An Introduction to Categorical Data Analysis, Third Edition summarizes these methods and shows readers how to use them using software. Readers will find a unified generalized linear models approach that connects logistic regression and loglinear models for discrete data with normal regression for continuous data. Adding to the value in the new edition is: • Illustrations of the use of R software to perform all the analyses in the book • A new chapter on alternative methods for categorical data, including smoothing and regularization methods (such as the lasso), classification methods such as linear discriminant analysis and classification trees, and cluster analysis • New sections in many chapters introducing the Bayesian approach for the methods of that chapter • More than 70 analyses of data sets to illustrate application of the methods, and about 200 exercises, many containing other data sets • An appendix showing how to use SAS, Stata, and SPSS, and an appendix with short solutions to most odd-numbered exercises Written in an applied, nontechnical style, this book illustrates the methods using a wide variety of real data, including medical clinical trials, environmental questions, drug use by teenagers, horseshoe crab mating, basketball shooting, correlates of happiness, and much more. An Introduction to Categorical Data Analysis, Third Edition is an invaluable tool for statisticians and biostatisticians as well as methodologists in the social and behavioral sciences, medicine and public health, marketing, education, and the biological and agricultural sciences.

This book offers a relatively self-contained presentation of the fundamental results in categorical data analysis, which plays a central role among the statistical techniques applied in the social, political and behavioral sciences, as well as in marketing and medical and biological research. The methods applied are mainly aimed at understanding the structure of associations among variables and the effects of other variables on these interactions. A great advantage of

studying categorical data analysis is that many concepts in statistics become transparent when discussed in a categorical data context, and, in many places, the book takes this opportunity to comment on general principles and methods in statistics, addressing not only the "how" but also the "why." Assuming minimal background in calculus, linear algebra, probability theory and statistics, the book is designed to be used in upper-undergraduate and graduate-level courses in the field and in more general statistical methodology courses, as well as a self-study resource for researchers and professionals. The book covers such key issues as: higher order interactions among categorical variables; the use of the delta-method to correctly determine asymptotic standard errors for complex quantities reported in surveys; the fundamentals of the main theories of causal analysis based on observational data; the usefulness of the odds ratio as a measure of association; and a detailed discussion of log-linear models, including graphical models. The book contains over 200 problems, many of which may also be used as starting points for undergraduate research projects. The material can be used by students toward a variety of goals, depending on the degree of theory or application desired.

This is the first workbook that introduces the multilevel approach to modeling with categorical outcomes using IBM SPSS Version 20. Readers learn how to develop, estimate, and interpret multilevel models with categorical outcomes. The authors walk readers through data management, diagnostic tools, model conceptualization, and model specification issues related to single-level and multilevel models with categorical outcomes. Screen shots clearly demonstrate techniques and navigation of the program. Modeling syntax is provided in the appendix. Examples of various types of categorical outcomes demonstrate how to set up each model and interpret the output. Extended examples illustrate the logic of model development, interpretation of output, the context of the research questions, and the steps around which the analyses are structured. Readers can replicate examples in each chapter by using the corresponding data and syntax files available at www.psypress.com/9781848729568. The book opens with a review of multilevel with categorical outcomes, followed by a chapter on IBM SPSS data management techniques to facilitate working with multilevel and longitudinal data sets. Chapters 3 and 4 detail the basics of the single-level and multilevel generalized linear model for various types of categorical outcomes. These chapters review underlying concepts to assist with trouble-shooting common programming and modeling problems. Next population-average and unit-specific longitudinal models for investigating individual or organizational developmental processes are developed. Chapter 6 focuses on single- and multilevel models using multinomial and ordinal data followed by a chapter on models for count data. The book concludes with additional trouble shooting techniques and tips for expanding on the modeling techniques introduced. Ideal as a supplement for graduate level courses and/or professional workshops on multilevel, longitudinal, latent variable modeling, multivariate statistics, and/or

advanced quantitative techniques taught in psychology, business, education, health, and sociology, this practical workbook also appeals to researchers in these fields. An excellent follow up to the authors' highly successful Multilevel and Longitudinal Modeling with IBM SPSS and Introduction to Multilevel Modeling Techniques, 2nd Edition, this book can also be used with any multilevel and/or longitudinal book or as a stand-alone text introducing multilevel modeling with categorical outcomes.

This book introduces basic and advanced concepts of categorical regression with a focus on the structuring constituents of regression, including regularization techniques to structure predictors. In addition to standard methods such as the logit and probit model and extensions to multivariate settings, the author presents more recent developments in flexible and high-dimensional regression, which allow weakening of assumptions on the structuring of the predictor and yield fits that are closer to the data. A generalized linear model is used as a unifying framework whenever possible in particular parametric models that are treated within this framework. Many topics not normally included in books on categorical data analysis are treated here, such as nonparametric regression; selection of predictors by regularized estimation procedures; ternative models like the hurdle model and zero-inflated regression models for count data; and non-standard tree-based ensemble methods. The book is accompanied by an R package that contains data sets and code for all the examples.

The nonstatistician's quick reference to applied categorical data analysis With a succinct, unified approach to applied categorical data analysis and an emphasis on applications, this book is immensely useful to researchers and students in the biomedical disciplines and to anyone concerned with statistical analysis. This self-contained volume provides up-to-date coverage of all major methodologies in this area of applied statistics and acquaints the reader with statistical thinking as expressed through a variety of modern-day topics and techniques. Applied Categorical Data Analysis introduces a number of new research areas, including the Mantel-Haenszel method, Kappa statistics, ordinal risks, odds ratio estimates, goodness-of-fit, and various regression models for categorical data. Chap T. Le, author of Health and Numbers and Applied Survival Analysis, presents his information in a user-friendly format and an accessible style while purposefully keeping the mathematics to a level appropriate for students in applied fields. Well supplemented with helpful graphs and tables, Applied Categorical Data Analysis: * Covers both basic and advanced topics * Employs many real-life examples from biomedicine, epidemiology, and public health * Presents case studies in meticulous detail * Provides end-of-chapter exercise sets and solutions * Incorporates samples of computer programs (most notably in SAS). Applied Categorical Data Analysis is an important resource for graduate students and professionals who need a compact reference and guide to both the fundamentals and applications of the major methods in the field.