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KEY=HAIR - MICHAEL MATIAS

APPLIED MULTIVARIATE STATISTICAL ANALYSIS (CLASSIC VERSION)

Pearson **This title is part of the Pearson Modern Classics series. Pearson Modern Classics are acclaimed titles at a value price. Please visit www.pearsonhighered.com/math-classics-series for a complete list of titles. For courses in Multivariate Statistics, Marketing Research, Intermediate Business Statistics, Statistics in Education, and graduate-level courses in Experimental Design and Statistics. Appropriate for experimental scientists in a variety of disciplines, this market-leading text offers a readable introduction to the statistical analysis of multivariate observations. Its primary goal is to impart the knowledge necessary to make proper interpretations and select appropriate techniques for analyzing multivariate data. Ideal for a junior/senior or graduate level course that explores the statistical methods for describing and analyzing multivariate data, the text assumes two or more statistics courses as a prerequisite.**

APPLIED MULTIVARIATE STATISTICS WITH R

Springer **This book brings the power of multivariate statistics to graduate-level practitioners, making these analytical methods accessible without lengthy mathematical derivations. Using the open source, shareware program R, Professor Zelterman demonstrates the process and outcomes for a wide array of multivariate statistical applications. Chapters cover graphical displays, linear algebra, univariate, bivariate and multivariate normal distributions, factor methods, linear regression, discrimination and classification, clustering, time series models, and additional methods. Zelterman uses practical examples from diverse disciplines to welcome readers from a variety of academic specialties. Those with backgrounds in statistics will learn new methods while they review more familiar topics. Chapters include exercises, real data sets, and R implementations. The data are interesting, real-world topics, particularly from health and biology-related contexts. As an example of the approach, the text examines a sample from the Behavior Risk Factor Surveillance System, discussing both the shortcomings of the data as well as useful analyses. The text avoids theoretical derivations beyond those needed to fully appreciate the methods. Prior experience with R is not necessary.**

PARTIAL LEAST SQUARES STRUCTURAL EQUATION MODELING (PLS-SEM) USING R

A WORKBOOK

Springer Nature **Partial least squares structural equation modeling (PLS-SEM) has become a standard approach for analyzing complex inter-relationships between observed and latent variables. Researchers appreciate the many advantages of PLS-SEM such as the possibility to estimate very complex models and the method's flexibility in terms of data requirements and measurement specification. This practical open access guide provides a step-by-step treatment of the major choices in analyzing PLS path models using R, a free software environment for statistical computing, which runs on Windows, macOS, and UNIX computer platforms. Adopting the R software's SEMinR package, which brings a friendly syntax to creating and estimating structural equation models, each chapter offers a concise overview of relevant topics and metrics, followed by an in-depth description of a case study. Simple instructions give readers the "how-tos" of using SEMinR to obtain solutions and document their results. Rules of thumb in every chapter provide guidance on best practices in the application and interpretation of PLS-SEM.**

THE DATA SCIENCE DESIGN MANUAL

Springer **This engaging and clearly written textbook/reference provides a must-have introduction to the rapidly emerging interdisciplinary field of data science. It focuses on the principles fundamental to becoming a good data scientist and the key skills needed to build systems for collecting, analyzing, and interpreting data. The Data Science Design Manual is a source of practical insights that highlights what really matters in analyzing data, and provides an intuitive understanding of how these core concepts can be used. The book does not emphasize any particular programming language or suite of data-analysis tools, focusing instead on high-level discussion of important design principles. This easy-to-read text ideally serves the needs of undergraduate and early graduate students embarking on an "Introduction to Data Science" course. It reveals how this discipline sits at the intersection of statistics, computer science, and machine learning, with a distinct heft and character of its own. Practitioners in these and related fields will find this book perfect for self-study as well. Additional learning tools: Contains "War Stories," offering perspectives on how data science applies in the real world Includes "Homework Problems," providing a wide range of exercises and projects for self-study Provides a complete set of lecture slides and online video lectures at www.data-manual.com Provides "Take-Home Lessons," emphasizing the big-picture concepts to learn from each chapter Recommends exciting "Kaggle Challenges" from the online platform Kaggle Highlights "False Starts," revealing the subtle reasons why certain approaches fail Offers examples taken from the data science television show "The Quant Shop" (www.quant-shop.com)**

STATISTICAL POWER ANALYSIS FOR THE BEHAVIORAL SCIENCES

Routledge **Statistical Power Analysis is a nontechnical guide to power analysis in research planning that provides users of applied statistics with the tools they need for more effective analysis. The Second Edition includes: * a chapter covering power analysis in set correlation and multivariate methods; * a chapter considering effect size, psychometric reliability, and the efficacy of "qualifying" dependent variables and; * expanded power and sample size tables for multiple regression/correlation.**

HANDBOOK OF DATA VISUALIZATION

Springer Science & Business Media **Visualizing the data is an essential part of any data analysis. Modern computing developments have led to big improvements in graphic capabilities and there are many new possibilities for data displays. This book gives an overview of modern data visualization methods, both in theory and practice. It details modern graphical tools such as mosaic plots, parallel coordinate plots, and linked views. Coverage also examines graphical methodology for particular areas of statistics, for example Bayesian analysis, genomic data and cluster analysis, as well software for graphics.**

FLEXIBLE IMPUTATION OF MISSING DATA, SECOND EDITION

CRC Press **Missing data pose challenges to real-life data analysis. Simple ad-hoc fixes, like deletion or mean imputation, only work under highly restrictive conditions, which are often not met in practice. Multiple imputation replaces each missing value by multiple plausible values. The variability between these replacements reflects our ignorance of the true (but missing) value. Each of the completed data set is then analyzed by standard methods, and the results are pooled to obtain unbiased estimates with correct confidence intervals. Multiple imputation is a general approach that also inspires novel solutions to old problems by reformulating the task at hand as a missing-data problem. This is the second edition of a popular book on multiple imputation, focused on explaining the application of methods through detailed worked examples using the MICE package as developed by the author. This new edition incorporates the recent developments in this fast-moving field. This class-tested book avoids mathematical and technical details as much as possible: formulas are accompanied by verbal statements that explain the formula in accessible terms. The book sharpens the reader's intuition on how to think about missing data, and provides all the tools needed to execute a well-grounded quantitative analysis in the presence of missing data.**

THE PREVENTION AND TREATMENT OF MISSING DATA IN CLINICAL TRIALS

National Academies Press **Randomized clinical trials are the primary tool for evaluating new medical interventions. Randomization provides for a fair comparison between treatment and control groups, balancing out, on average, distributions of known and unknown factors among the participants. Unfortunately, these studies often lack a substantial percentage of data. This missing data reduces the benefit provided by the randomization and introduces potential biases in the comparison of the treatment groups. Missing data can arise for a variety of reasons, including the inability or unwillingness of participants to meet appointments for evaluation. And in some studies, some or all of data collection ceases when participants discontinue study treatment. Existing guidelines for the design and conduct of clinical trials, and the analysis of the resulting data, provide only limited advice on how to handle missing data. Thus, approaches to the analysis of data with an appreciable amount of missing values tend to be ad hoc and variable. The Prevention and Treatment of Missing Data in Clinical Trials concludes that a more principled approach to design and analysis in the presence of missing data is both needed and possible. Such an approach needs to focus on two critical elements: (1) careful design and conduct to limit the amount and impact of missing data and (2) analysis that makes full use of information on all randomized participants and is based on careful attention to the assumptions about the nature of the missing data underlying estimates of treatment effects. In addition to the highest priority recommendations, the book offers more detailed recommendations on the conduct of clinical trials and techniques for analysis of trial data.**

EXPLORATORY FACTOR ANALYSIS

Oxford University Press **This book provides a non-mathematical introduction to the theory and application of Exploratory Factor Analysis. Among the issues discussed are the use of confirmatory versus exploratory factor analysis, the use of principal components analysis versus common factor analysis, and procedures for determining the appropriate number of factors.**

THE CODING MANUAL FOR QUALITATIVE RESEARCHERS

SAGE **The Second Edition of Johnny Saldaña's international bestseller provides an in-depth guide to the multiple approaches available for coding qualitative data. Fully up to date, it includes new chapters, more coding techniques and an additional glossary. Clear, practical and authoritative, the book: -describes how coding initiates qualitative data analysis -demonstrates the writing of analytic memos -discusses available analytic software -suggests how best to use The Coding Manual for Qualitative Researchers for particular studies. In total, 32 coding methods are profiled that can be applied to a range of research genres from grounded theory to phenomenology to narrative inquiry. For each approach, Saldaña discusses the method's origins, a description of the method, practical applications, and a clearly illustrated example with analytic follow-up. A unique and invaluable reference for students, teachers, and practitioners of qualitative inquiry, this book is essential reading across the social sciences.**

VISIBLE LEARNING

A SYNTHESIS OF OVER 800 META-ANALYSES RELATING TO ACHIEVEMENT

Routledge **This unique and ground-breaking book is the result of 15 years research and synthesises over 800 meta-analyses on the influences on achievement in school-aged students. It builds a story about the power of teachers, feedback, and a model of learning and understanding. The research involves many millions of students and represents the largest ever evidence based research into what actually works in schools to improve learning. Areas covered include the influence of the student, home, school, curricula, teacher, and teaching strategies. A model of teaching and learning is developed based on the notion of visible teaching and visible learning. A major message is that what works best for students is similar to what works best for teachers – an attention to setting challenging learning intentions, being clear about what success means, and an attention to learning strategies for developing conceptual understanding about what teachers and students know and understand. Although the current evidence based fad has turned into a debate about test scores, this book is about using evidence to build and defend a model of teaching and learning. A major contribution is a fascinating benchmark/dashboard for comparing many innovations in teaching and schools.**

AN INTRODUCTION TO APPLIED MULTIVARIATE ANALYSIS WITH R

Springer Science & Business Media **The majority of data sets collected by researchers in all disciplines are multivariate, meaning that several measurements, observations, or recordings are taken on each of the units in the data set. These units might be human subjects, archaeological artifacts, countries, or a vast variety of other things. In a few cases, it may be sensible to isolate each variable and study it separately, but in most instances all the variables need to be examined simultaneously in order to fully grasp the structure and key features of the data. For this purpose, one or another method of multivariate analysis might be helpful, and it is with such methods that this book is largely concerned. Multivariate analysis includes methods both for describing and exploring such data and for making formal inferences about them. The aim of all the techniques is, in general sense, to display or extract the signal in the data in the presence of noise and to find out what the data show us in the midst of their apparent chaos. An Introduction to Applied Multivariate Analysis with R explores the correct application of these methods so as to extract as much information as possible from the data at hand, particularly as some type of graphical representation, via the R software. Throughout the book, the authors give many examples of R code used to apply the multivariate techniques to multivariate data.**

ENTERTAINMENT SCIENCE

DATA ANALYTICS AND PRACTICAL THEORY FOR MOVIES, GAMES, BOOKS, AND MUSIC

Springer **The entertainment industry has long been dominated by legendary screenwriter William Goldman's "Nobody-Knows-Anything" mantra, which argues that success is the result of managerial intuition and instinct. This book builds the case that combining such intuition with data analytics and rigorous scholarly knowledge provides a source of sustainable competitive advantage – the same recipe for success that is behind the rise of firms such as Netflix and Spotify, but has also fueled Disney's recent success. Unlocking a large repertoire of scientific studies by business scholars and entertainment economists, the authors identify essential factors, mechanisms, and methods that help a new entertainment product succeed. The book thus offers a timely alternative to "Nobody-Knows" decision-making in the digital era: while coupling a good idea with smart data analytics and entertainment theory cannot guarantee a hit, it systematically and substantially increases the probability of success in the entertainment industry. Entertainment Science is poised to inspire fresh new thinking among managers, students of entertainment, and scholars alike. Thorsten Hennig-Thurau and Mark B. Houston – two of our finest scholars in the area of entertainment marketing – have produced a definitive research-based compendium that cuts across various branches of the arts to explain the phenomena that provide consumption experiences to capture the hearts and minds of audiences. Morris B. Holbrook, W. T. Dillard Professor Emeritus of Marketing, Columbia University Entertainment Science is a must-read for everyone working in the entertainment industry today, where the impact of digital and the use of big data can't be ignored anymore. Hennig-Thurau and Houston are the scientific frontrunners of knowledge that the industry urgently needs. Michael Kölmel, media entrepreneur and Honorary Professor of Media Economics at University of Leipzig Entertainment Science's winning combination of creativity, theory, and data analytics offers managers in the creative industries and beyond a novel, compelling, and comprehensive approach to support their decision-making. This ground-breaking book marks the dawn of a new Golden Age of fruitful conversation between entertainment scholars, managers, and artists. Allègre Hadida, Associate Professor in Strategy, University of Cambridge**

PARTIAL LEAST SQUARES STRUCTURAL EQUATION MODELING

RECENT ADVANCES IN BANKING AND FINANCE

Springer **This book pulls together robust practices in Partial Least Squares Structural Equation Modeling (PLS-SEM) from other disciplines and shows how they can be used in the area of Banking and Finance. In terms of empirical analysis techniques, Banking and Finance is a conservative discipline. As such, this book will raise awareness of the potential of PLS-SEM for application in various contexts. PLS-SEM is a non-parametric approach designed to maximize explained variance in latent constructs. Latent constructs are directly unobservable phenomena such as customer service quality and managerial competence. Explained variance refers to the extent we can predict, say, customer service quality, by examining other theoretically related latent constructs such as conduct of staff and communication skills. Examples of latent constructs at the microeconomic level include customer service quality, managerial effectiveness, perception of market leadership, etc.; macroeconomic-level latent constructs would be found in contagion of systemic risk from one financial sector to another, herd behavior among fund managers, risk tolerance in financial markets, etc. Behavioral Finance is bound to provide a wealth of opportunities for applying PLS-SEM. The book is designed to expose robust processes in application of PLS-SEM, including use of various software packages and codes, including R. PLS-SEM is already a popular tool in marketing and management information systems used to explain latent constructs. Until now, PLS-SEM has not enjoyed a wide acceptance in Banking and Finance. Based on recent research developments, this book represents the first collection of PLS-SEM applications in Banking and Finance. This book will serve as a reference book for those researchers keen on adopting PLS-SEM to explain latent constructs in Banking and Finance.**

HANDBOOK OF STATISTICAL ANALYSIS AND DATA MINING APPLICATIONS

Elsevier **Handbook of Statistical Analysis and Data Mining Applications, Second Edition, is a comprehensive professional reference book that guides business analysts, scientists, engineers and researchers, both academic and industrial, through all stages of data analysis, model building and implementation. The handbook helps users discern technical and business problems, understand the strengths and weaknesses of modern data mining algorithms and employ the right statistical methods for practical application. This book is an ideal reference for users who want to address massive and complex datasets with novel statistical approaches and be able to objectively evaluate analyses and solutions. It has clear, intuitive explanations of the principles and tools for solving problems using modern analytic techniques and discusses their application to real problems in ways accessible and beneficial to practitioners across several areas—from science and engineering, to medicine, academia and commerce. Includes input by practitioners for practitioners Includes tutorials in numerous fields of study that provide step-by-step instruction on how to use supplied tools to build models Contains practical advice from successful real-world implementations Brings together, in a single resource, all the information a beginner needs to understand the tools and issues in data mining to build successful data mining solutions Features clear, intuitive explanations of novel analytical tools and techniques, and their practical applications**

DATA MINING: CONCEPTS AND TECHNIQUES

Elsevier **Data Mining: Concepts and Techniques provides the concepts and techniques in processing gathered data or information, which will be used in various applications. Specifically, it explains data mining and the tools used in discovering knowledge from the collected data. This book is referred as the knowledge discovery from data (KDD). It focuses on the feasibility, usefulness, effectiveness, and scalability of techniques of large data sets. After describing data mining, this edition explains the methods of knowing, preprocessing, processing, and warehousing data. It then presents information about data warehouses, online analytical processing (OLAP), and data cube technology. Then, the methods involved in mining frequent patterns, associations, and correlations for large data sets are described. The book details the methods for data classification and introduces the concepts and methods for data clustering. The remaining chapters discuss the outlier detection and the trends, applications, and research frontiers in data mining. This book is intended for Computer Science students, application developers, business professionals, and researchers who seek information on data mining. Presents dozens of algorithms and implementation examples, all in pseudo-code and suitable for use in real-world, large-scale data mining projects Addresses advanced topics such as mining object-relational databases, spatial databases, multimedia databases, time-series databases, text databases, the World Wide Web, and applications in several fields Provides a comprehensive, practical look at the concepts and techniques you need to get the most out of your data**

DATA VISUALIZATION MADE SIMPLE

INSIGHTS INTO BECOMING VISUAL

Routledge **Data Visualization Made Simple is a practical guide to the fundamentals, strategies, and real-world cases for data visualization, an essential skill required in today's information-rich world. With foundations rooted in statistics, psychology, and computer science, data visualization offers practitioners in almost every field a coherent way to share**

findings from original research, big data, learning analytics, and more. In nine appealing chapters, the book: examines the role of data graphics in decision-making, sharing information, sparking discussions, and inspiring future research; scrutinizes data graphics, deliberates on the messages they convey, and looks at options for design visualization; and includes cases and interviews to provide a contemporary view of how data graphics are used by professionals across industries Both novices and seasoned designers in education, business, and other areas can use this book's effective, linear process to develop data visualization literacy and promote exploratory, inquiry-based approaches to visualization problems.

TRENDS AND APPLICATIONS IN INFORMATION SYSTEMS AND TECHNOLOGIES

VOLUME 2

Springer Nature **This book is composed of a selection of articles from The 2021 World Conference on Information Systems and Technologies (WorldCIST'21), held online between 30 and 31 of March and 1 and 2 of April 2021 at Hangra de Heroismo, Terceira Island, Azores, Portugal. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges of modern information systems and technologies research, together with their technological development and applications. The main topics covered are: A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human–Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; N) Technologies for Biomedical Applications.**

BRAIN-COMPUTER INTERFACES

PRINCIPLES AND PRACTICE

Oxford University Press **A recognizable surge in the field of Brain Computer Interface (BCI) research and development has emerged in the past two decades. This book is intended to provide an introduction to and summary of essentially all major aspects of BCI research and development. Its goal is to be a comprehensive, balanced, and coordinated presentation of the field's key principles, current practice, and future prospects.**

PRINCIPLES AND PRACTICE OF STRUCTURAL EQUATION MODELING, FOURTH EDITION

Guilford Publications **Emphasizing concepts and rationale over mathematical minutiae, this is the most widely used, complete, and accessible structural equation modeling (SEM) text. Continuing the tradition of using real data examples from a variety of disciplines, the significantly revised fourth edition incorporates recent developments such as Pearl's graphing theory and the structural causal model (SCM), measurement invariance, and more. Readers gain a comprehensive understanding of all phases of SEM, from data collection and screening to the interpretation and reporting of the results. Learning is enhanced by exercises with answers, rules to remember, and topic boxes. The companion website supplies data, syntax, and output for the book's examples--now including files for Amos, EQS, LISREL, Mplus, Stata, and R (lavaan). New to This Edition *Extensively revised to cover important new topics: Pearl's graphing theory and the SCM, causal inference frameworks, conditional process modeling, path models for longitudinal data, item response theory, and more. *Chapters on best practices in all stages of SEM, measurement invariance in confirmatory factor analysis, and significance testing issues and bootstrapping. *Expanded coverage of psychometrics. *Additional computer tools: online files for all detailed examples, previously provided in EQS, LISREL, and Mplus, are now also given in Amos, Stata, and R (lavaan). *Reorganized to cover the specification, identification, and analysis of observed variable models separately from latent variable models. Pedagogical Features *Exercises with answers, plus end-of-chapter annotated lists of further reading. *Real examples of troublesome data, demonstrating how to handle typical problems in analyses. *Topic boxes on specialized issues, such as causes of nonpositive definite correlations. *Boxed rules to remember. *Website promoting a learn-by-doing approach, including syntax and data files for six widely used SEM computer tools.**

ARCHITECTURAL RESEARCH METHODS

John Wiley & Sons **A practical guide to research for architects and designers—now updated and expanded! From searching for the best glass to prevent glare to determining how clients might react to the color choice for restaurant walls, research is a crucial tool that architects must master in order to effectively address the technical, aesthetic, and behavioral issues that arise in their work. This book's unique coverage of research methods is specifically targeted to help professional designers and researchers better conduct and understand research. Part I explores basic research issues and concepts, and includes chapters on relating theory to method and design to research. Part II gives a comprehensive treatment of specific strategies for investigating built forms. In all, the book covers seven types of research, including historical, qualitative, correlational, experimental, simulation, logical argumentation, and case studies and mixed methods. Features new to this edition include: Strategies for investigation, practical examples, and resources for additional information A look at current trends and innovations in research Coverage of design studio-based research that shows how strategies described in the book can be employed in real life A discussion of digital media and online research New and updated examples of research studies A new chapter on the relationship between design and research Architectural Research Methods is an essential reference for architecture students and researchers as well as architects, interior designers, landscape architects, and building product manufacturers.**

THE CONTENT ANALYSIS GUIDEBOOK

SAGE **Content analysis is one of the most important but complex research methodologies in the social sciences. In this thoroughly updated Second Edition of The Content Analysis Guidebook, author Kimberly Neuendorf provides an accessible core text for upper-level undergraduates and graduate students across the social sciences. Comprising step-by-step instructions and practical advice, this text unravels the complicated aspects of content analysis.**

BIOENGINEERING AND BIOMEDICAL SIGNAL AND IMAGE PROCESSING

FIRST INTERNATIONAL CONFERENCE, BIOMESIP 2021, MELONERAS, GRAN CANARIA, SPAIN, JULY 19-21, 2021, PROCEEDINGS

Springer Nature **This book constitutes the refereed proceedings of the First International Conference on Bioengineering and Biomedical Signal and Image Processing, BIOMESIP 2021, held in Meloneras, Gran Canaria, Spain, in July 2021. The 41 full and 5 short papers were carefully reviewed and selected from 121 submissions. The papers are grouped in topical issues on biomedical applications in molecular, structural, and functional imaging; biomedical computing; biomedical signal measurement, acquisition and processing; computerized medical imaging and graphics; disease control and diagnosis; neuroimaging; pattern recognition and machine learning for biosignal data; personalized medicine; and COVID-19.**

NONLINEAR MULTIVARIATE ANALYSIS

INTRODUCTION TO MACHINE LEARNING

MIT Press **The goal of machine learning is to program computers to use example data or past experience to solve a given problem. Many successful applications of machine learning exist already, including systems that analyze past sales data to predict customer behavior, optimize robot behavior so that a task can be completed using minimum resources, and extract knowledge from bioinformatics data. Introduction to Machine Learning is a comprehensive textbook on the subject, covering a broad array of topics not usually included in introductory machine learning texts. Subjects include supervised learning; Bayesian decision theory; parametric, semi-parametric, and nonparametric methods; multivariate analysis; hidden Markov models; reinforcement learning; kernel machines; graphical models; Bayesian estimation; and statistical testing.Machine learning is rapidly becoming a skill that computer science students must master before graduation. The third edition of Introduction to Machine Learning reflects this shift, with added support for beginners, including selected solutions for exercises and additional example data sets (with code available online). Other substantial changes include discussions of outlier detection; ranking algorithms for perceptrons and support vector machines; matrix decomposition and spectral methods; distance estimation; new kernel algorithms; deep learning in multilayered perceptrons; and the nonparametric approach to Bayesian methods. All learning algorithms are explained so that students can easily move from the equations in the book to a computer program. The book can be used by both advanced undergraduates and graduate students. It will also be of interest to professionals who are concerned with the application of machine learning methods.**

REGRESSION

LINEAR MODELS IN STATISTICS

Springer Science & Business Media **Regression is the branch of Statistics in which a dependent variable of interest is modelled as a linear combination of one or more predictor variables, together with a random error. The subject is inherently two- or higher- dimensional, thus an understanding of Statistics in one dimension is essential. Regression: Linear Models in Statistics fills the gap between introductory statistical theory and more specialist sources of information. In doing so, it provides the reader with a number of worked examples, and exercises with full solutions. The book begins with simple linear regression (one predictor variable), and analysis of variance (ANOVA), and then further explores the area through inclusion of topics such as multiple linear regression (several predictor variables) and analysis of covariance (ANCOVA). The book concludes with special topics such as non-parametric regression and mixed models, time series, spatial processes and design of experiments. Aimed at 2nd and 3rd year undergraduates studying Statistics, Regression: Linear Models in Statistics requires a basic knowledge of (one-dimensional) Statistics, as well as Probability and standard Linear Algebra. Possible companions include John Haigh's Probability Models, and T. S. Blyth & E.F. Robertsons' Basic Linear Algebra and Further Linear Algebra.**

A DICTIONARY OF EPIDEMIOLOGY

Oxford University Press, USA **This edition is the most updated since its inception, is the essential text for students and professionals working in and around epidemiology or using its methods. It covers subject areas - genetics, clinical epidemiology, public health practice/policy, preventive medicine, health promotion, social sciences and methods for clinical research.**

COMPOSITE-BASED STRUCTURAL EQUATION MODELING

ANALYZING LATENT AND EMERGENT VARIABLES

Guilford Publications **This book presents powerful tools for integrating interrelated composites--such as capabilities, policies, treatments, indices, and systems--into structural equation modeling (SEM). Jörg Henseler introduces the types of research questions that can be addressed with composite-based SEM and explores the differences between composite- and factor-based SEM, variance- and covariance-based SEM, and emergent and latent variables. Using rich illustrations and walked-through data sets, the book covers how to specify, identify, estimate, and assess composite models using partial least squares path modeling, maximum likelihood, and other estimators, as well as how to interpret findings and report the results. Advanced topics include confirmatory composite analysis, mediation analysis, second-order constructs, interaction effects, and importance-performance analysis. Most chapters conclude with software tutorials for ADANCO and the R package cSEM. The companion website includes data files and syntax for the book's examples, along with presentation slides.**

LOG-LINEAR MODELS AND LOGISTIC REGRESSION

Springer Science & Business Media **The primary focus here is on log-linear models for contingency tables, but in this second edition, greater emphasis has been placed on logistic regression. The book explores topics such as logistic discrimination and generalised linear models, and builds upon the relationships between these basic models for continuous data and the analogous log-linear and logistic regression models for discrete data. It also carefully examines the differences in model interpretations and evaluations that occur due to the discrete nature of the data. Sample commands are given for analyses in SAS, BMFP, and GLIM, while numerous data sets from fields as diverse as engineering, education, sociology, and medicine are used to illustrate procedures and provide exercises. Throughoutthe book, the treatment is designed for students with prior knowledge of analysis of variance and regression.**

DISCRETE CALCULUS

APPLIED ANALYSIS ON GRAPHS FOR COMPUTATIONAL SCIENCE

Springer Science & Business Media **This unique text brings together into a single framework current research in the three areas of discrete calculus, complex networks, and algorithmic content extraction. Many example applications from several fields of computational science are provided.**

MEASUREMENT IN NURSING AND HEALTH RESEARCH

FOURTH EDITION

Springer Publishing Company **Designated a Doody's Core Title! "This is a valuable resource for readers seeking basic to advanced information on measurement. It should be on the bookshelf of all researchers, and a requirement for graduate nursing students."Score: 100, 5 stars--Doody's Medical Reviews "...this book is a wonderful shelf reference for nurse researcher mentors and investigators who may need to explore content or use content to design, test, select, and evaluate instruments and methods used in measuring nurse concepts and outcomes."--Clinical Nurse Specialist This fourth edition presents everything nurses and health researchers need to know about designing, testing, selecting, and evaluating instruments and methods for measuring in nursing. Thoroughly updated, this fourth edition now contains only the latest, most cutting-edge measurement instruments that have direct applicability for nurses and health researchers in a variety of roles, including students, clinicians, educators, researchers, administrators, and consultants. Using clear and accessible language, the authors explain in detail, and illustrate by example, how to conduct sound measurement practices that have been adequately tested for reliability and validity. This edition is enriched with topics on the leading edge of nursing and health care research, such as measurement in the digital world, biomedical instrumentation, new clinical data collection methods, and methods for measuring quality of care. Key features: Provides new and emerging strategies for testing the validity of specific measures Discusses computer-based testing: the use of Internet research and data collection Investigates methods for measuring physiological variables using biomedical instrumentation Includes information on measurement practices in clinical research, focusing on clinical data collection methods, such as clinimetrics Identifies the challenges of measuring quality of care and how to address them**

TRANSITIONS THEORY

MIDDLE RANGE AND SITUATION SPECIFIC THEORIES IN NURSING RESEARCH AND PRACTICE

Springer Publishing Company **"It is very exciting to see all of these studies compiled in one book. It can be read sequentially or just for certain transitions. It also can be used as a template for compilation of other concepts central to nursing and can serve as a resource for further studies in transitions. It is an excellent addition to the nursing literature." Score: 95, 4 Stars. --Doody's "Understanding and recognizing transitions are at the heart of health care reform and this current edition, with its numerous clinical examples and descriptions of nursing interventions, provides important lessons that can and should be incorporated into health policy. It is a brilliant book and an important contribution to nursing theory." Kathleen Dracup, RN, DNSc Dean and Professor, School of Nursing University of California San Francisco Afaf Meleis, the dean of the University of Pennsylvania School of Nursing, presents for the first time in a single volume her original "transitions theory" that integrates middle-range theory to assist nurses in facilitating positive transitions for patients, families, and communities. Nurses are consistently relied on to coach and support patients going through major life transitions, such as illness, recovery, pregnancy, old age, and many more. A collection of over 50 articles published from 1975 through 2007 and five newly commissioned articles, Transitions Theory covers developmental, situational, health and illness, organizational, and therapeutic transitions. Each section includes an introduction written by Dr. Meleis in which she offers her historical and practical perspective on transitions. Many of the articles consider the transitional experiences of ethnically diverse patients, women, the elderly, and other minority populations. Key Topics Discussed: Situational transitions, including discharge and relocation transitions (hospital to home, stroke recovery) and immigration transitions (psychological adaptation and impact of migration on family health) Educational transitions, including professional transitions (from RN to BSN and student to professional) Health and illness transitions, including self-care post heart failure, living with chronic illness, living with early dementia, and accepting palliative care Organization transitions, including role transitions from acute care to collaborative practice, and hospital to community practice Nursing therapeutics models of transition, including role supplementation models and debriefing models**

PRACTICAL GUIDE TO CHEMOMETRICS

CRC Press **The limited coverage of data analysis and statistics offered in most undergraduate and graduate analytical chemistry courses is usually focused on practical aspects of univariate methods. Drawing in real-world examples, Practical Guide to Chemometrics, Second Edition offers an accessible introduction to application-oriented multivariate meth**

BIOSTATISTICAL ANALYSIS

Zar's Biostatistncal Analysis, Fifth Edition, is the ideal textbook for graduate and undergraduate students seeking practncal coverage of statistncal analysis methods used by researchers to collect, summarize, analyze and draw conclusnons from biologic E research. The latest editnon of this best-selling textbook is both comprehensive and easy to read. It is suitable as an introductnon for begnnnnng students and as a comprehensive reference book for biologic E researchers and for advanced students. This book is appropriate for a one- or two-semester, junior or graduate-level course in biostatistncs, biometry, quantitatnve biology, or statistics, and assumes a prerequisite ofalgebra.

APPLIED REGRESSION ANALYSIS

A RESEARCH TOOL

Springer Science & Business Media **Least squares estimation, when used appropriately, is a powerful research tool. A deeper understanding of the regression concepts is essential for achieving optimal benefits from a least squares analysis. This book builds on the fundamentals of statistical methods and provides appropriate concepts that will allow a scientist to use least squares as an effective research tool. Applied Regression Analysis is aimed at the scientist who wishes to gain a working knowledge of regression analysis. The basic purpose of this book is to develop an understanding of least squares and related statistical methods without becoming excessively mathematical. It is the outgrowth of more than 30 years of consulting experience with scientists and many years of teaching an applied regression course to graduate students. Applied Regression Analysis serves as an excellent text for a service course on regression for non-statisticians and as a reference for researchers. It also provides a bridge between a two-semester introduction to statistical methods and a thoeretical linear models course. Applied Regression Analysis emphasizes the concepts and the analysis of data sets. It provides a review of the key concepts in simple linear regression, matrix operations, and multiple regression. Methods and criteria for selecting regression variables and geometric interpretations are discussed. Polynomial, trigonometric, analysis of variance, nonlinear, time series, logistic, random effects, and mixed effects models are also discussed. Detailed case studies and exercises based on real data sets are used to reinforce the concepts. The data sets used in the book are available on the Internet.**

METHODS MATTER

IMPROVING CAUSAL INFERENCE IN EDUCATIONAL AND SOCIAL SCIENCE RESEARCH

Oxford University Press **Educational policy-makers around the world constantly make decisions about how to use scarce resources to improve the education of children. Unfortunately, their decisions are rarely informed by evidence on the consequences of these initiatives in other settings. Nor are decisions typically accompanied by well-formulated plans to evaluate their causal impacts. As a result, knowledge about what works in different situations has been very slow to accumulate. Over the last several decades, advances in research methodology, administrative record keeping, and statistical software have dramatically increased the potential for researchers to conduct compelling evaluations of the causal impacts of educational interventions, and the number of well-designed studies is growing. Written in clear, concise prose, Methods Matter: Improving Causal Inference in Educational and Social Science Research offers essential guidance for those who evaluate educational policies. Using numerous examples of high-quality studies that have evaluated the causal impacts of important educational interventions, the authors go beyond the simple presentation of new analytical methods to discuss the controversies surrounding each study, and provide heuristic explanations that are also broadly accessible. Murnane and Willett offer strong methodological insights on causal inference, while also examining the consequences of a wide variety of educational policies implemented in the U.S. and abroad. Representing a unique contribution to the literature surrounding educational research, this landmark text will be invaluable for students and researchers in education and public policy, as well as those interested in social science.**

TESTING STRUCTURAL EQUATION MODELS

SAGE **What is the role of fit measures when respecifying a model? Should the means of the sampling distributions of a fit index be unrelated to the size of the sample? Is it better to estimate the statistical power of the chi-square test than to turn to fit indices? Exploring these and related questions, well-known scholars examine the methods of testing structural equation models (SEMS) with and without measurement error, as estimated by such programs as EQS, LISREL and CALIS.**

CONFIRMATORY FACTOR ANALYSIS FOR APPLIED RESEARCH, SECOND EDITION

Guilford Publications **This accessible book has established itself as the go-to resource on confirmatory factor analysis (CFA) for its emphasis on practical and conceptual aspects rather than mathematics or formulas. Detailed, worked-through examples drawn from psychology, management, and sociology studies illustrate the procedures, pitfalls, and extensions of CFA methodology. The text shows how to formulate, program, and interpret CFA models using popular latent variable software packages (LISREL, Mplus, EQS, SAS/CALIS); understand the similarities ...**

MULTIVARIATE DATA ANALYSIS

USING SPSS AND AMOS

MJP Publisher **Multivariate Data Analysis Introduction to SPSS Outliers Normality Test of Linearity Data Transformation Bootstrapping Homoscedasticity Introduction to IBM SPSS – AMOS Multivariate Analysis of Variance (MANOVA) One Way Manova in SPSS Multiple Regression Analysis Binary Logistic Regression Factor Analysis Exploratory Factor Analysis Confirmatory Factor Analysis Cluster Analysis K - Mean Cluster Analysis Hierarchical Cluster Analysis Discriminant Analysis Correspondence Analysis Multidimensional Scaling Example - Multidimensional Scaling (ALSCAL) Neural Network Decision Trees Path Analysis Structural Equation Modeling Canonical Correlation**

IBM SPSS STATISTICS 25 STEP BY STEP

A SIMPLE GUIDE AND REFERENCE

Routledge **IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference, fifteenth edition, takes a straightforward, step-by-step approach that makes SPSS software clear to beginners and experienced researchers alike. Extensive use of four-color screen shots, clear writing, and step-by-step boxes guide readers through the program. Exercises at the end of each chapter support students by providing additional opportunities to practice using SPSS. This book covers both the basics of descriptive statistical analysis using SPSS through to more advanced topics such as multiple regression, multidimensional scaling and MANOVA, including instructions for Windows and Mac. This makes it ideal for both undergraduate statistics courses and for postgraduates looking to further develop their statistics and SPSS knowledge. New to this edition: Updated throughout to SPSS 25 Updated / restructured material on: Chart Builder; Univariate ANOVA; moderation on two- and three-way ANOVA; and Factor Analytic Techniques (formerly Factor Analysis structure) New material on computing z and T scores, and on computing z scores within descriptive statistics Clearer in-chapter links between the type of data and type of research question that the procedure can answer Updated / additional datasets, exercises, and expanded Companion Website material, including Powerpoint slides for instructors**