

A Mathematical Primer For Social Statistics Quant

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Multilevel Structural Equation Modeling Bruno Castanho Silva 2019-02-28 Multilevel Structural Equation Modeling by Bruno Castanho Silva, Constantin Manuel Bosancianu, and Levente Littvay serves as a minimally technical overview of multilevel structural equation modeling (MSEM) for applied researchers and advanced graduate students in the social sciences. As the first book of its kind, this title is an accessible, hands-on introduction for beginners of the topic. The authors predict a growth in this area, fueled by both data availability and also the availability of new and improved software to run these models. The applied approach, combined with a graphical presentation style and minimal reliance on complex matrix algebra guarantee that this volume will be useful to social science graduate students wanting to utilize such models.

Regression Analysis for the Social Sciences Rachel A. Gordon 2015-03-17 Provides graduate students in the social sciences with the basic skills they need to estimate, interpret, present, and publish basic regression models using contemporary standards. Key features of the book include: •interweaving the teaching of statistical concepts with examples developed for the course from publicly-available social science data or drawn from the literature. •thorough integration of teaching statistical theory with teaching data processing and analysis. •teaching of Stata and use of chapter exercises in which students practice programming and interpretation on the same data set. A separate set of exercises allows students to select a data set to apply the concepts learned in each chapter to a research question of interest to them, all updated for this edition.

Essential Mathematics for Political and Social Research Jeff Gill 2006-04-24 This 2006 book addresses the comprehensive introduction to the mathematical principles needed by modern social scientists.

Making History Count Charles H. Feinstein 2002 Making History Count introduces the main quantitative methods used in historical research. The emphasis is on intuitive understanding and application of the concepts, rather than formal statistics; no knowledge of mathematics beyond simple arithmetic is required. The techniques are illustrated by applications in social, political, demographic and economic history. Students will learn to read and evaluate the application of the quantitative methods used in many books and articles, and to assess the historical conclusions drawn from them. They will also see how

quantitative techniques can open up new aspects of an enquiry, and supplement and strengthen other methods of research. This textbook will encourage students to recognize the benefits of using quantitative methods in their own research projects. The text is clearly illustrated with tables, graphs and diagrams, leading the student through key topics. Additional support includes five specific historical data-sets, available from the Cambridge website.

Linear Regression Damodar N. Gujarati 2018-06-14 Taking the reader step-by-step through the intricacies, theory and practice of regression analysis, Damodar N. Gujarati uses a clear style that doesn't overwhelm the reader with abstract mathematics.

Applied Bayesian Statistics Scott M. Lynch 2022-10-31 Bayesian statistical analyses have become increasingly common over the last two decades. The rapid increase in computing power that facilitated their implementation coincided with major changes in the research interests of, and data availability for, social scientists. Specifically, the last two decades have seen an increase in the availability of panel data sets, other hierarchically structured data sets including spatially organized data, along with interests in life course processes and the influence of context on individual behavior and outcomes. The Bayesian approach to statistics is well-suited for these types of data and research questions. *Applied Bayesian Statistics* is an introduction to these methods that is geared toward social scientists. Author Scott M. Lynch makes the material accessible by emphasizing application more than theory, explaining the math in a step-by-step fashion, and demonstrating the Bayesian approach in analyses of U.S. political trends drawing on data from the General Social Survey.

Multilevel Modeling Douglas A. Luke 2019-12-13 *Multilevel Modeling* is a concise, practical guide to building models for multilevel and longitudinal data. Author Douglas A. Luke begins by providing a rationale for multilevel models; outlines the basic approach to estimating and evaluating a two-level model; discusses the major extensions to mixed-effects models; and provides advice for where to go for instruction in more advanced techniques. Rich with examples, the Second Edition expands coverage of longitudinal methods, diagnostic procedures, models of counts (Poisson), power analysis, cross-classified models, and adds a new section added on presenting modeling results. A website for the book includes the data and the statistical code (both R and Stata) used for all of the presented analyses.

Generalized Linear Models for Bounded and Limited Quantitative Variables Michael Smithson 2019-09-09 This book introduces researchers and students to the concepts and generalized linear models for analyzing quantitative random variables that have one or more bounds. Examples of bounded variables include the percentage of a population eligible to vote (bounded from 0 to 100), or reaction time in milliseconds (bounded below by 0). The human sciences deal in many variables that are bounded. Ignoring bounds can result in misestimation and improper statistical inference. Michael Smithson and Yiyun Shou's book brings together material on the analysis of limited and bounded variables that is scattered across the literature in several disciplines, and presents it in a style that is both more accessible and up-to-date. The authors provide worked examples in each chapter using real datasets from a variety of disciplines. The software used for the examples include R, SAS, and Stata. The data, software code, and detailed explanations of the example models are available on an accompanying website.

Propensity Score Methods and Applications Haiyan Bai 2018-11-20 A concise, introductory text, *Propensity Score Methods and Applications* describes propensity score methods (PSM) and how they are used to balance the distributions of observed covariates between treatment conditions as a means to reduce selection bias. This new QASS title specifically focuses on the procedures of implementing PSM for research in social sciences, instead of merely demonstrating the effectiveness of the method. Using succinct and approachable language to introduce the basic concepts of PSM, authors Haiyan Bai and M. H. Clark present basic concepts, assumptions, procedures, available software packages, and step-by-step examples for implementing PSM using real-world data, with exercises at the end of each chapter allowing readers to replicate examples on their own.

Introduction to Power Analysis E. C. Hedberg 2017-12-05 *Introduction to Power Analysis: Two-Group Studies* provides readers with the background, examples, and explanation they need to read technical papers and materials that include complex power analyses. This clear and accessible guide explains the components of test statistics and their sampling distributions, and author Eric Hedberg walks the reader through the simple and complex considerations of this research question. Filled with graphics and examples, the reader is taken on a tour of power analyses from covariates to clusters, seeing how the complicated task of comparing two groups, and the power analysis, can be made easy.

Mathematics for Social Scientists Jonathan Kropko 2015-09-09 Written for social science students who will be working with or conducting research, *Mathematics for Social Scientists* offers a non-intimidating approach to learning or reviewing math skills essential in quantitative research methods. The text is designed to build students' confidence by presenting material in a conversational tone and using a wealth of clear and applied examples. Author Jonathan Kropko argues that mastering these concepts will break students' reliance on using basic models in statistical software, allowing them to engage with research data beyond simple software calculations.

A Cumberland Vendetta John Fox 2017-08-09 *A Cumberland Vendetta* is a fictional novel written by John Fox, Jr. The novel is set in Appalachia at the turn of the 20th century. John Fox Jr. (December 16, 1862 – July 8, 1919) was an American journalist, novelist, and short story writer. Born in Stony Point, Kentucky, to John William Fox, Sr., and Minerva Worth Carr, Fox studied English at Harvard University. He graduated in 1883 before becoming a reporter in New York City. After working for both *New York Times* and the *New York Sun*, he published a successful serialization of his first novel, *A Mountain Europa*, in *Century* magazine in 1892. Two moderately successful short story collections followed, as well as his first conventional novel, *The Kentuckians* in 1898. Fox gained a following as a war correspondent, working for *Harper's Weekly* in Cuba during the Spanish–American War of 1898, where he served with the "Rough Riders." Six years later he traveled to Asia to report on the Russo-Japanese War for *Scribner's* magazine. Though he occasionally wrote for periodicals, after 1904, Fox dedicated much of his attention to fiction. *The Little Shepherd of Kingdom Come* (published in 1903) and *The Trail of the Lonesome Pine* (published in 1908) are arguably his most well known and successful works, entering the *New York Times* top ten list of bestselling novels for 1903, 1904, 1908, and 1909 respectively. In *The Trail of the Lonesome Pine*, the character Devil Judd Tolliver was based on the real life of "Devil John" Wesley Wright, the sheriff of Wise County, Virginia. Many of his works reflected the naturalist style, his childhood in Kentucky's Bluegrass region, and his life among the coal

miners of Big Stone Gap, Virginia. Many of his novels were historical romances or period dramas set in that region.

Randomized Response and Related Methods James Alan Fox 2015-07-29 Randomized response is a data collection strategy specifically designed for surveys of a sensitive nature. By establishing a probabilistic connection between question and answer, randomized response and related methods protect respondents who are asked to disclose personal information. Covering a half century of theoretical and applied research, the Second Edition of James Alan Fox's *Randomized Response and Related Methods* significantly updates and expands what was, at the time, the first comprehensive and practical guide to randomized response.

A Mathematics Course for Political and Social Research Will H. Moore 2013-08-11 Political science and sociology increasingly rely on mathematical modeling and sophisticated data analysis, and many graduate programs in these fields now require students to take a "math camp" or a semester-long or yearlong course to acquire the necessary skills. Available textbooks are written for mathematics or economics majors, and fail to convey to students of political science and sociology the reasons for learning often-abstract mathematical concepts. *A Mathematics Course for Political and Social Research* fills this gap, providing both a primer for math novices in the social sciences and a handy reference for seasoned researchers. The book begins with the fundamental building blocks of mathematics and basic algebra, then goes on to cover essential subjects such as calculus in one and more than one variable, including optimization, constrained optimization, and implicit functions; linear algebra, including Markov chains and eigenvectors; and probability. It describes the intermediate steps most other textbooks leave out, features numerous exercises throughout, and grounds all concepts by illustrating their use and importance in political science and sociology. Uniquely designed and ideal for students and researchers in political science and sociology. Uses practical examples from political science and sociology. Features "Why Do I Care?" sections that explain why concepts are useful. Includes numerous exercises. Complete online solutions manual (available only to professors, email david.siegel at duke.edu, subject line "Solution Set") Selected solutions available online to students

Factorial Survey Experiments Katrin Auspurg 2014-11-28 Filling a gap in the literature of the field, *Factorial Survey Experiments* provides researchers with a practical guide to using the factorial survey method to assess respondents' beliefs about the world, judgment principles, or decision rules through multi-dimensional stimuli ("vignettes") that resemble real-life decision-making situations. Using insightful examples to illustrate their arguments, authors Katrin Auspurg and Thomas Hinz guide researchers through all relevant steps, including how to set up the factorial experimental design (drawing samples of vignettes and respondents), how to handle the practical challenges that must be mastered when an experimental plan with many different treatments is embedded in a survey format, and how to deal with questions of data analysis. In addition to providing the "how-tos" of designing factorial survey experiments, the authors cover recent developments of similar methods, such as conjoint analyses, choice experiments, and more advanced statistical tools.

Social Network Analysis David Knoke 2019-12-02 Knoke and Yang's handy primer on social network analysis offers a concise introduction to basic network concepts, data collection, and network analytical methodology.

Ordinal Item Response Theory Wijbrandt van Schuur 2011-05-04 "Ordinal Item Response Theory is volume 169 in the SAGE Series "Quantitative Applications in the Social Sciences" (QASS). The of Ordinal Item Response Theory is referred to throughout many other QASS titles and fills a gap between the more classical topics of unidimensional scaling, test theory, principal component and factor analysis. In addition, this volume also discusses parametric item response theory and latent class analysis. This monograph is less technical than many books on the market and is best suited for an introductory course in social science measurement"--

Statistics and Data Analysis for Financial Engineering David Ruppert 2015-04-21 The new edition of this influential textbook, geared towards graduate or advanced undergraduate students, teaches the statistics necessary for financial engineering. In doing so, it illustrates concepts using financial markets and economic data, R Labs with real-data exercises, and graphical and analytic methods for modeling and diagnosing modeling errors. These methods are critical because financial engineers now have access to enormous quantities of data. To make use of this data, the powerful methods in this book for working with quantitative information, particularly about volatility and risks, are essential. Strengths of this fully-revised edition include major additions to the R code and the advanced topics covered. Individual chapters cover, among other topics, multivariate distributions, copulas, Bayesian computations, risk management, and cointegration. Suggested prerequisites are basic knowledge of statistics and probability, matrices and linear algebra, and calculus. There is an appendix on probability, statistics and linear algebra. Practicing financial engineers will also find this book of interest.

An R Companion to Applied Regression John Fox 2010-11-29 This is a broad introduction to the R statistical computing environment in the context of applied regression analysis. It is a thoroughly updated edition of John Fox's bestselling text *An R and S-Plus Companion to Applied Regression* (SAGE, 2002). The Second Edition is intended as a companion to any course on modern applied regression analysis. The authors provide a step-by-step guide to using the high-quality free statistical software R, an emphasis on integrating statistical computing in R with the practice of data analysis, coverage of generalized linear models, enhanced coverage of R graphics and programming, and substantial web-based support materials.

Agent-Based Models Nigel Gilbert 2019-11-15 The second edition of this popular book introduces agent-based modeling, an increasingly popular approach enabling researchers to build models where individual entities and their interactions are directly represented.

Multidimensional Item Response Theory Wes Bonifay 2019-12-10 Several decades of psychometric research have led to the development of sophisticated models for multidimensional test data, and in recent years, multidimensional item response theory (MIRT) has become a burgeoning topic in psychological and educational measurement. Considered a cutting-edge statistical technique, the methodology underlying MIRT can be complex, and therefore doesn't receive much attention in introductory IRT courses. However author Wes Bonifay shows how MIRT can be understood and applied by anyone with a firm grounding in unidimensional IRT modeling. His volume includes practical examples and illustrations, along with numerous figures and diagrams. Multidimensional Item Response Theory includes snippets of R code interspersed throughout the text (with the complete R

code included on an accompanying website) to guide readers in exploring MIRT models, estimating the model parameters, generating plots, and implementing the various procedures and applications discussed throughout the book.

Generalized Linear Models Jeff Gill 2019-05-14 Explaining the theoretical underpinning of generalized linear models, this text enables researchers to decide how to select the best way to adapt their data for this type of analysis, with examples to illustrate the application of GLM.

Calculus Gudmund R. Iversen 1996-01-18 This overview of the central ideas of calculus provides many examples of how calculus is used to translate many real world phenomena into mathematical functions.

Nonrecursive Models Pamela Paxton 2011-03-08 Nonrecursive Models is a clear and concise introduction to the estimation and assessment of nonrecursive simultaneous equation models. This unique monograph gives practical advice on the specification and identification of simultaneous equation models, how to assess the quality of the estimates, and how to correctly interpret results.

Meta-Analysis Fredric Marc Wolf 1986-04 Author Fredric M. Wolf explains how to use combined statistical tests and measures of effect size to synthesize the results of independent studies of a common research question.

A Mathematical Primer for Social Statistics John Fox 2009 The ideal primer for students and researchers across the social sciences who wish to master the necessary maths in order to pursue studies involving advanced statistical methods

Understanding Regression Analysis Larry D. Schroeder 1986-04 Providing beginners with a background to the frequently-used technique of linear regression, this text provides a heuristic explanation of the procedures and terms used in regression analysis and has been written at the most elementary level.

Statistical Thinking from Scratch M. D. Edge 2019-06-07 Researchers across the natural and social sciences find themselves navigating tremendous amounts of new data. Making sense of this flood of information requires more than the rote application of formulaic statistical methods. The premise of Statistical Thinking from Scratch is that students who want to become confident data analysts are better served by a deep introduction to a single statistical method than by a cursory overview of many methods. In particular, this book focuses on simple linear regression—a method with close connections to the most important tools in applied statistics—using it as a detailed case study for teaching resampling-based, likelihood-based, and Bayesian approaches to statistical inference. Considering simple linear regression in depth imparts an idea of how statistical procedures are designed, a flavour for the philosophical positions one assumes when applying statistics, and tools to probe the strengths of one's statistical approach. Key to the book's novel approach is its mathematical level, which is gentler than most texts for statisticians but more rigorous than most introductory texts for non-statisticians. Statistical Thinking from Scratch is suitable for senior undergraduate and beginning graduate students, professional researchers, and practitioners seeking to improve their understanding of statistical methods across the natural and social

sciences, medicine, psychology, public health, business, and other fields.

The Association Graph and the Multigraph for Loglinear Models Harry J. Khamis 2011-01-12 The Association Graph and the Multigraph for Loglinear Models will help students, particularly those studying the analysis of categorical data, to develop the ability to evaluate and unravel even the most complex loglinear models without heavy calculations or statistical software. This supplemental text reviews loglinear models, explains the association graph, and introduces the multigraph to students who may have little prior experience of graphical techniques, but have some familiarity with categorical variable modeling. The author presents logical step-by-step techniques from the point of view of the practitioner, focusing on how the technique is applied to contingency table data and how the results are interpreted.

Logistic Regression Fred C. Pampel 2000-05-26 Trying to determine when to use a logistic regression and how to interpret the coefficients? Frustrated by the technical writing in other books on the topic? Pampel's book offers readers the first "nuts and bolts" approach to doing logistic regression through the use of careful explanations and worked out examples. Pampel first offers readers a review of some basic concepts, such as exponents, percentage change, and likelihood functions. Next, he describes in some detail how taking the log of the odds eliminates the floor so that the transformation of logistic regression coefficients into coefficients that effect odds and probabilities makes more sense to readers. And, third, he describes maximum likelihood estimation through words and simple samples (along side of the formulas) so as to make the concept more concrete and the procedure easier to comprehend. Throughout the book, he emphasizes examples, explanations, and how to interpret the results of each procedure. This book will enable readers to use and understand logistic regression techniques and will serve as a foundation for more advanced treatments of the topic. Learn more about "The Little Green Book" - QASS Series! [Click Here](#)

A Mathematical Primer for Social Statistics John Fox 2021-01-11 A Mathematical Primer for Social Statistics, Second Edition presents mathematics central to learning and understanding statistical methods beyond the introductory level: the basic "language" of matrices and linear algebra and its visual representation, vector geometry; differential and integral calculus; probability theory; common probability distributions; statistical estimation and inference, including likelihood-based and Bayesian methods. The volume concludes by applying mathematical concepts and operations to a familiar case, linear least-squares regression. The Second Edition pays more attention to visualization, including the elliptical geometry of quadratic forms and its application to statistics. It also covers some new topics, such as an introduction to Markov-Chain Monte Carlo methods, which are important in modern Bayesian statistics. A companion website includes materials that enable readers to use the R statistical computing environment to reproduce and explore computations and visualizations presented in the text. The book is an excellent companion to a "math camp" or a course designed to provide foundational mathematics needed to understand relatively advanced statistical methods.

A Knight of the Cumberland John Fox 2017-08-11 Populated by a parade of fascinating characters, this slice-of-life story provides a glimpse into life in the Appalachian region in the early twentieth century. A prodigal son, the offspring of a legendary local moonshiner, makes his yearly pilgrimage home to the wilds of Virginia, where he kicks off the vestiges of his

comparatively sophisticated existence in the city and immerses himself in the local customs. John Fox Jr. (December 16, 1862 – July 8, 1919) was an American journalist, novelist, and short story writer. Though he occasionally wrote for periodicals, after 1904, Fox dedicated much of his attention to fiction. *The Little Shepherd of Kingdom Come* (published in 1903) and *The Trail of the Lonesome Pine* (published in 1908) are arguably his most well known and successful works, entering the *New York Times* top ten list of bestselling novels for 1903, 1904, 1908, and 1909 respectively. In *The Trail of the Lonesome Pine*, the character Devil Judd Tolliver was based on the real life of "Devil John" Wesley Wright, the sheriff of Wise County, Virginia. Many of his works reflected the naturalist style, his childhood in Kentucky's Bluegrass region, and his life among the coal miners of Big Stone Gap, Virginia. Many of his novels were historical romances or period dramas set in that region. John Fox Jr. died in 1919 of pneumonia in Big Stone Gap, Virginia, and was buried in the family plot in Paris, Kentucky. His marriage to Austrian opera singer Fritzi Scheff in 1908 lasted just over four years. He had no children. The John Fox Jr. House in Big Stone Gap was turned into a museum after the death of John's sister in 1970. It was listed on the National Register of Historic Places in 1974.

Multivariate General Linear Models Richard Haase 2011-11-23 This title provides an integrated introduction to multivariate multiple regression analysis (MMR) and multivariate analysis of variance (MANOVA). It defines the key steps in analyzing linear model data and introduces multivariate linear model analysis as a generalization of the univariate model. Richard F. Haase focuses on multivariate measures of association for four common multivariate test statistics, presents a flexible method for testing hypotheses on models, and emphasizes the multivariate procedures attributable to Wilks, Pillai, Hotelling, and Roy.

Gathering Social Network Data jimi adams 2019-06-03 test

Event History and Survival Analysis Paul D. Allison 2014-02-19 Social scientists are interested in events and their causes. Although event histories are ideal for studying the causes of events, they typically possess two features—censoring and time-varying explanatory variables—that create major problems for standard statistical procedures. Several innovative approaches have been developed to accommodate these two peculiarities of event history data. This volume surveys these methods, concentrating on the approaches that are most useful to the social sciences. In particular, Paul D. Allison focuses on regression methods in which the occurrence of events is dependent on one or more explanatory variables. He gives attention to the statistical models that form the basis of event history analysis, and also to practical concerns such as data management, cost, and useful computer software. The Second Edition is part of SAGE's Quantitative Applications in the Social Sciences (QASS) series, which continues to serve countless students, instructors, and researchers in learning the most cutting-edge quantitative techniques.

Regression Diagnostics John Fox 2019-12-09 Regression diagnostics are methods for determining whether a regression model that has been fit to data adequately represents the structure of the data. For example, if the model assumes a linear (straight-line) relationship between the response and an explanatory variable, is the assumption of linearity warranted? Regression diagnostics not only reveal deficiencies in a regression model that has been fit to data but in many instances may suggest how the model can be improved. The Second Edition of this bestselling volume by John Fox considers two important classes of regression models:

the normal linear regression model (LM), in which the response variable is quantitative and assumed to have a normal distribution conditional on the values of the explanatory variables; and generalized linear models (GLMs) in which the conditional distribution of the response variable is a member of an exponential family. R code and data sets for examples within the text can be found on an accompanying website.

Understanding Correlation Matrices Alexandria Hadd 2020-11-29 Correlation matrices (along with their unstandardized counterparts, covariance matrices) underlie the majority the statistical methods that researchers use today. A correlation matrix is more than a matrix filled with correlation coefficients. The value of one correlation in the matrix puts constraints on the values of the others, and the multivariate implications of this statement is a major theme of the volume. Alexandria Hadd and Joseph Lee Rodgers cover many features of correlations matrices including statistical hypothesis tests, their role in factor analysis and structural equation modeling, and graphical approaches. They illustrate the discussion with a wide range of lively examples including correlations between intelligence measured at different ages through adolescence; correlations between country characteristics such as public health expenditures, health life expectancy, and adult mortality; correlations between well-being and state-level vital statistics; correlations between the racial composition of cities and professional sports teams; and correlations between childbearing intentions and childbearing outcomes over the reproductive life course. This volume may be used effectively across a number of disciplines in both undergraduate and graduate statistics classrooms, and also in the research laboratory.

Routledge International Handbook of Advanced Quantitative Methods in Nursing Research Susan J Henly 2015-07-24 Designed to support global development of nursing science, the *Routledge International Handbook of Advanced Quantitative Methods in Nursing Research* provides a new, comprehensive, and authoritative treatment of advanced quantitative methods for nursing research. Incorporating past approaches that have served as the foundation for the science, this cutting edge book also explores emerging approaches that will shape its future. Divided into six parts, it covers: -the domain of nursing science - measurement—classical test theory, IRT, clinimetrics, behavioral observation, biophysical measurement -models for prediction and explanation—SEM, general growth mixture models, hierarchical models, analysis of dynamic systems -intervention research—theory-based interventions, causality, third variables, pilot studies, quasi-experimental design, joint models for longitudinal data and time to event -e-science—DIKW paradigm, big data, data mining, omics, FMRI -special topics—comparative effectiveness and meta-analysis, patient safety, economics research in nursing, mixed methods, global research dissemination Written by a distinguished group of international nursing scientists, scientists from related fields, and methodologists, the Handbook is the ideal reference for everyone involved in nursing science, whether they are graduate students, academics, editors and reviewers, or clinical investigators.

Introduction to Survey Sampling Graham Kalton 2020-04 Sample design is key to all surveys, fundamental to data collection, and to the analysis and interpretation of the data. *Introduction to Survey Sampling, Second Edition* provides an authoritative and accessible source on sample design strategies and procedures that is a required reading for anyone collecting or analyzing survey data. Graham Kalton discusses different types of probability samples, stratification (pre and post), clustering, dual frames, replicates, response, base

weights, design effects, and effective sample size. It is a thorough revision and update of the first edition, published more than 35 years ago. Although the concepts of probability sampling are largely the same, there have been important developments in the application of these concepts as research questions have increasingly spanned multiple disciplines, computers have become central to data collection as well as data analysis, and cell phones have become ubiquitous, but response rates have fallen, and public willingness to engage in survey research has waned. While most of the volume focuses on probability samples, there is also a chapter on nonprobability samples, which are becoming increasingly important with the rise of social media and the world wide web.

Applied Regression Colin Lewis-Beck 2015-06-18 Known for its readability and clarity, this Second Edition of the best-selling Applied Regression provides an accessible introduction to regression analysis for social scientists and other professionals who want to model quantitative data. After covering the basic idea of fitting a straight line to a scatter of data points, the text uses clear language to explain both the mathematics and assumptions behind the simple linear regression model. Authors Colin Lewis-Beck and Michael Lewis-Beck then cover more specialized subjects of regression analysis, such as multiple regression, measures of model fit, analysis of residuals, interaction effects, multicollinearity, and prediction. Throughout the text, graphical and applied examples help explain and demonstrate the power and broad applicability of regression analysis for answering scientific questions.