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| 1. Record Nr. | UNINA9910523896203321 |
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| Titolo | Advanced statistics in criminology and criminal justice // David Weisburd, David B. Wilson, Alese Wooditch, and Chester Britt |
| Pubbl/distr/stampa | Cham, Switzerland : , : Springer, , [2022] ©2022 |
| ISBN | 3-030-67738-9 |
| Edizione | [Fifth edition.] |
| Descrizione fisica | 1 online resource (552 pages) |
| Disciplina | 364.021 |
| Soggetti | Criminology Social sciences - Statistical methods |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index. |
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-- Quasi-Poisson Regression -- Negative Binomial Regression -- Zero-Inflated Poisson/Negative Binomial Regression -- R -- Poisson Regression -- Quasi-Poisson Regression -- Negative Binomial Regression -- Zero-Inflated Poisson/Negative Binomial Regression -- Problems -- References -- Chapter 7: Multilevel Regression Models. A Simple Multilevel Model -- Fixed-Effects and Random-Effects -- A Substantive Example: Bail Decision-Making Study -- Intraclass Correlation and Explained Variance -- Deciding Between a Fixed- and Random-Effects Model -- Statistical Significance -- Bail Decision-Making Study -- Random Intercept Model with Fixed Slopes -- Statistical Significance -- Centering Independent Variables -- Bail Decision-Making Study -- Between and Within Effects -- Testing for Between and Within Effects -- Bail Decision-Making Study -- Random Coefficient Model -- Variance Estimates -- Bail Decision-Making Study -- Adding Cluster (Level 2) Characteristics -- A Substantive Example: Race and Sentencing Across Pennsylvania Counties -- Multilevel Negative Binomial Regression -- Chapter Summary -- Key Terms -- Symbols and Formulas -- Exercises -- Computer Exercises -- SPSS -- Stata -- Random Intercept Models -- Random Coefficient Models -- R -- Random Intercept Models -- Random Coefficient Models -- Problems -- References -- Chapter 8: Statistical Power -- Statistical Power -- Setting the Level of Statistical Power -- Components of Statistical Power -- Statistical Significance and Statistical Power -- Directional Hypotheses -- Sample Size and Statistical Power -- Effect Size and Statistical Power -- Estimating Statistical Power and Sample Size for a Statistically Powerful Study -- Difference of Means Test -- ANOVA -- Correlation -- Least Squares Regression -- Summing Up: Avoiding Studies Designed for Failure -- Chapter Summary -- Key Terms -- Symbols and Formulas -- Computer Exercises -- Stata -- Two-Sample Difference of Means Test -- ANOVA -- Correlation -- OLS Regression -- R -- Two-Sample Difference of Means Test -- ANOVA -- Correlation -- OLS Regression -- Problems -- References -- Chapter 9: Randomized Experiments -- The Structure of a Randomized Experiment.

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Chapter Summary -- Key Terms -- Symbols and Formulas -- Exercises -- Computer Exercises -- Stata -- Estimating Propensity Score -- Matching Cases -- Assessing Matches -- Estimating Treatment Effect -- R -- Estimating Propensity Score -- Matching Cases -- Assessing Matches -- Estimating Treatment Effect -- Problems.

Sommario/riassunto

This book provides the student, researcher or practitioner with the tools to understand many of the most commonly used advanced statistical analysis tools in criminology and criminal justice, and also to apply them to research problems. The volume is structured around two main topics, giving the user flexibility to find what they need quickly. The first is "the general linear model" which is the main analytic approach used to understand what influences outcomes in crime and justice. It presents a series of approaches from OLS multivariate regression, through logistic regression and multi-nomial regression, hierarchical regression, to count regression. The volume also examines alternative methods for estimating unbiased outcomes that are becoming more common in criminology and criminal justice, including analyses of randomized experiments and propensity score matching. It also examines the problem of statistical power, and how it can be used to better design studies. Finally, it discusses meta analysis, which is used to summarize studies; and geographic statistical analysis, which allows us to take into account the ways in which geographies may influence our statistical conclusions.
