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Soggetti	Medical statistics -- Textbooks Medical statistics Health Care Evaluation Mechanisms Medicine Methods Mathematics Research Epidemiologic Methods Environment and Public Health Health Investigative Techniques Natural Science Disciplines Science Population Characteristics Quality of Health Care Health Occupations Health Care Health Care Quality, Access, and Evaluation Analytical, Diagnostic and Therapeutic Techniques and Equipment Disciplines and Occupations Public Health Statistics as Topic Research Design Health & Biological Sciences Medical Statistics Electronic books.
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Nota di contenuto	Starting Out in Statistics; Contents; Introduction - What's the Point of Statistics?; Reference; Basic Maths for Stats Revision; Statistical Software Packages; About the Companion Website; 1 Introducing Variables, Populations and Samples - 'Variability is the Law of Life'; 1.1 Aims; 1.2 Biological data vary; 1.3 Variables; 1.4 Types of qualitative variables; 1.4.1 Nominal variables; 1.4.2 Multiple response variables; 1.4.3 Preference variables; 1.5 Types of quantitative variables; 1.5.1 Discrete variables; 1.5.2 Continuous variables; 1.5.3 Ordinal variables - a moot point 1.6 Samples and populations1.7 Summary; Reference; 2 Study Design and Sampling - 'Design is Everything. Everything!'; 2.1 Aims; 2.2 Introduction; 2.3 One sample; 2.4 Related samples; 2.5 Independent samples; 2.6 Factorial designs; 2.7 Observational study designs; 2.7.1 Cross-sectional design; 2.7.2 Case-control design; 2.7.3 Longitudinal studies; 2.7.4 Surveys; 2.8 Sampling; 2.9 Reliability and validity; 2.10 Summary; References; 3 Probability - 'Probability ... So True in General'; 3.1 Aims; 3.2 What is probability?; 3.3 Frequentist probability; 3.4 Bayesian probability 3.5 The likelihood approach3.6 Summary; References; 4 Summarising Data - 'Transforming Data into Information'; 4.1 Aims; 4.2 Why summarise?; 4.3 Summarising data numerically - descriptive statistics; 4.3.1 Measures of central location; 4.3.2 Measures of dispersion; 4.4 Summarising data graphically; 4.5 Graphs for summarising group data; 4.5.1 The bar graph; 4.5.2 The error plot; 4.5.3 The box-and-whisker plot; 4.5.4 Comparison of graphs for group data; 4.5.5 A little discussion on error bars; 4.6 Graphs for displaying relationships between variables; 4.6.1 The scatter diagram or plot 4.6.2 The line graph4.7 Displaying complex (multidimensional) data; 4.8 Displaying proportions or percentages; 4.8.1 The pie chart; 4.8.2 Tabulation; 4.9 Summary; References; 5 Statistical Power - '. . . Find out the Cause of this Effect'; 5.1 Aims; 5.2 Power; 5.3 From doormats to aortic valves; 5.4 More on the normal distribution; 5.4.1 The central limit theorem; 5.5 How is power useful?; 5.5.1 Calculating the power; 5.5.2 Calculating the sample size; 5.6 The problem with p values; 5.7 Confidence intervals and power; 5.8 When to stop collecting data 5.9 Likelihood versus null hypothesis testing5.10 Summary; References; 6 Comparing Groups using t-Tests and ANOVA - 'To Compare is not to Prove'; 6.1 Aims; 6.2 Are men taller than women?; 6.3 The central limit theorem revisited; 6.4 Student's t-test; 6.4.1 Calculation of the pooled standard deviation; 6.4.2 Calculation of the t statistic; 6.4.3 Tables and tails; 6.5 Assumptions of the t-test; 6.6 Dependent t-test; 6.7 What type of data can be tested using t-tests?; 6.8 Data transformations; 6.9 Proof is not the answer; 6.10 The problem of multiple testing 6.11 Comparing multiple means - the principles of analysis of variance
Sommario/riassunto	To form a strong grounding in human-related sciences it is essential for students to grasp the fundamental concepts of statistical analysis, rather than simply learning to use statistical software. Although the software is useful, it does not arm a student with the skills necessary to formulate the experimental design and analysis of a research project in later years of study or indeed, if working in research. This textbook deftly covers a topic that many students find difficult. With an engaging and accessible style it provides the necessary background and tools for

students to use statist
