

Table of Contents

Introduction to Data Analysis (2nd edition)

Chapter 1: Data

- Chapter 1 Introduction
- Section 1A: Two Types of Data (Categorical and Quantitative)
- Section 1B: Collecting Data
- Section 1C: Bias
- Section 1D: Experimental Design

Chapter 2: Categorical Data Analysis

- Chapter 2 Introduction
- Section 2A: Proportions and Percentages
- Section 2B: Bar Charts and Pie Charts with Technology
- Section 2C: Comparing Percentages (% Ratio, % of Increase)
- Section 2D: Estimating Amounts with Percentages

Chapter 3: Categorical Relationships

- Chapter 3 Introduction
- Section 3A: Contingency Tables with Technology
- Section 3B: Marginal and Joint Percentages
- Section 3C: Conditional Percentages and Categorical Relationships

Chapter 4: Normal Quantitative Data Analysis

- Chapter 4 Introduction
- Section 4A: Finding Shape with Dot Plots and Histograms
- Section 4B: Shapes and Centers
- Section 4C: Understanding the Mean Average
- Section 4D: Spread, Standard Deviation and Typical Values for Normal Quantitative Data
- Section 4E: Finding Unusual Values (Outliers) and Summarizing Normal Quantitative Data

Chapter 5: Non-normal and Skewed Quantitative Data Analysis

- Chapter 5 Introduction
- Section 5A: Review of Shapes and Centers, Dot Plots and Histograms
- Section 5B: Understanding the Median Average
- Section 5C: Spread and Typical Values for Skewed Quantitative Data, Quartiles, Interquartile Range, and the Five Number Summary
- Section 5D: Box Plots, Finding Unusual Values (Outliers) for Skewed Quantitative Data
- Section 5E: Various Quantitative Statistics (Measures of Center, Spread and Position)

Chapter 6: Linear Quantitative Relationships (Correlation and Regression)

- Chapter 6 Introduction
- Section 6A: Rectangular Coordinate System, Scatterplots, Explanatory and Response Variables
- Section 6B: Strength and Direction of Linear Quantitative Relationships, Correlation Coefficient (r)
- Section 6C: Coefficient of Determination (r^2), Confounding Variables, Correlation is not Causation
- Section 6D: Best Fit Regression Line with Technology, Slope and Y-intercept Interpretation
- Section 6E: Residuals, Residual Plots, Histogram of the Residuals, and the Standard Deviation of the Residual Errors (S_e)
- Section 6F: Predictions, Scope of the X values, Extrapolation and Prediction Error

Chapter 7: Non-linear Curved Quantitative Relationships

- Chapter 4 Introduction
 - Section 4A: Exponential Quantitative Relationships
 - Section 4B: Logarithmic Quantitative Relationships
 - Section 4C: Quadratic Quantitative Relationships
-