

Contents

Before we begin	1
<i>How this book is different</i>	1
<i>How I suggest you use this book</i>	2
1. Statistical inquiry	7
<i>Making sense of experience</i>	8
<i>What is statistics?</i>	11
<i>Descriptive and inferential statistics</i>	13
<i>Collecting a sample</i>	18
2. Describing our sample	23
<i>Statistical variables</i>	23
<i>Error, accuracy and approximations</i>	30
3. Summarizing our data	33
<i>Tables and diagrams</i>	33
<i>Central tendency (averages)</i>	44
<i>Measures of dispersion</i>	46
4. The shape of a distribution	54
<i>Skewed distributions</i>	55
<i>Introducing the normal distribution</i>	61
<i>Proportions under the normal curve</i>	69
<i>Comparing values</i>	77
5. From sample to population	80
<i>Estimates and inferences</i>	80
<i>The logic of sampling</i>	84

CONTENTS

<i>A distribution of sample-means</i>	85
<i>Estimating the population-mean</i>	93
<i>Estimating other parameters</i>	98
6. Comparing samples	102
<i>From the same or different populations?</i>	102
<i>Significance testing</i>	107
<i>The significance of significance</i>	116
<i>Comparing dispersions</i>	122
<i>Non-parametric methods</i>	124
7. Further matters of significance	129
<i>One- versus two-tailed tests</i>	130
<i>z-tests and t-tests</i>	141
<i>Comparing several means</i>	143
<i>Comparing proportions</i>	152
8. Analysing relationships	157
<i>Paired values</i>	158
<i>Three kinds of correlation</i>	162
<i>The strength of a correlation</i>	164
<i>The significance of a correlation coefficient</i>	167
<i>Interpreting a correlation coefficient</i>	171
<i>Prediction and regression</i>	179
Final remarks	188
<i>Review</i>	189
<i>Caution</i>	191
Index	195