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# Contents

Preface	xv	
Author	xvii	
<b>Chapter 1</b>	<b>Research Essentials</b>	<b>1</b>
	Prescription	2
	Fundamental Concepts	2
	Variation	3
	Deterministic, Stochastic, and Chaotic Phenomena	3
	Population	4
	Samples	5
	Precautions	7
	Will the Data Require Statistical Methods?	8
	Summary	9
<b>PART I</b>	<b>Planning</b>	
	Prescription	11
<b>Chapter 2</b>	<b>Hypotheses and Losses</b>	<b>13</b>
	Prescription	13
	State the Objectives of Your Research	13
	For Surveys	14
	Gather Qualitative Data	14
	Formulating Hypotheses	15
	Specify the Decisions and Associated Costs	18
	Specify the Alternatives	19
	One-Sided or Two-Sided?	21
	Ordered or Unordered Alternative Hypotheses?	21
	Summary	22
	To Learn More	22

<b>Chapter 3</b>	Coping with Variation	23
	Prescription	23
	Start with Your Reports	23
	List All Outcomes of Interest	24
	List All Sources of Variation	25
	Survey Questions	26
	Describe How You Will Cope with Sources of Variation	28
	Specify Your Collection Methods	28
	Itemize the Costs of Collection	29
	Consider Using Surrogates	30
	Establish a Time Line	31
	Should the Study Be Performed? To Learn More	31 32
<b>Chapter 4</b>	Experimental Design	33
	Prescription	33
	Define the Study Population	34
	The Purpose of Experimental Design	34
	The Simplest Designs	35
	Randomized Blocks	35
	Nested Designs	36
	Matched Pairs	38
	Case Matching	38
	Cross-Over Designs	38
	Multiple Treatments and Multiple Factors	39
	Complete Design	39
	Confounding	39
	Latin Squares	40
	Fractional Factorials	42
	Incomplete Blocks	44
	K.I.S.S.?	45
	Summary	46
	To Learn More	46

## **PART II Data Collection**

<b>Chapter 5</b>	Fundamentals	49
	Prescription	49
	How Will You Make Your Measurements?	49
	Collect Exact Values Whenever Possible	50
	Formal Descriptions of Methods and Materials	50
	Blinding	51
	Treatment Assignment	51
	Determine Sample Size	51
	Put Your Data in a Computer and Keep It There	52
	Pre-Data Screen Development Checklist	54
	Forestall Disaster	54
	For Experiments	54
	For Surveys	55
	For Clinical Trials	57
	To Learn More	58
	About Clinical Trials	58
	About Surveys	58
<b>Chapter 6</b>	Quality Control	59
	Prescription	59
	Potential Sources of Error	59
	Preventive Measures	60
	Make Baseline Measurements	60
	Conduct a Pilot Study	61
	Monitor the Data Collection Process	61
	Monitor the Data	62
	To Learn More	62

## **PART III Analyzing Your Data**

	Prescription	63
<b>Chapter 7</b>	Describing the Data	65
	Prescription	65

Box and Whiskers Plot	65
Which Statistic?	67
Center of the Distribution	68
Dispersion	71
Interval Estimates	72
Confidence Intervals for the Population Mean	74
Confidence Intervals for Proportions	
Estimated from Randomized Responses	75
Confidence Intervals for Other Population	
Characteristics	76
An Improved Bootstrap	79
Summary	80
To Learn More	81
<b>Chapter 8</b> Hypothesis Tests	83
Prescription	83
Types of Data	84
Analyzing Data from a Single Population	85
Binomial Trials	85
Inverse Binomial Sampling	86
Poisson Data	86
Time between Counts	88
Measurements	88
Comparing Two Populations	89
Categorical Data	89
Binomials	92
Rare Events (Poisson)	92
Measurements	93
Additive or Percentage Changes?	94
Case-Control Studies	95
Comparing Three or More Populations	95
Unordered Treatments	95
Ordered Treatments	98
Ordinal Data	99
Experimental Designs	101
Cross-Over Designs	101
Complete Multifactor Design	102

	Latin Square	104
	Fractional Factorial Design	105
	To Learn More	107
<b>Chapter 9</b>	<b>Multiple Variables and Multiple Tests</b>	<b>109</b>
	Prescription	109
	Multiple Variables	109
	Repeated Measures	112
	Multiple Tests	113
	Controlling the Family-Wise Error Rate	114
	Controlling the False Discovery Rate	114
	To Learn More	115
<b>Chapter 10</b>	<b>Miscellaneous Hypothesis Tests</b>	<b>117</b>
	Prescription	117
	Hypothesis Tests and Confidence Intervals	117
	Testing for Equivalence	118
	When Variables Are Not Identically Distributed	119
	Comparing Variances	120
	Cluster Sampling	121
	Group Randomized Trials	122
	Testing for Trend	122
<b>Chapter 11</b>	<b>Sample Size Determination</b>	<b>123</b>
	Prescription	123
	Prepare a Budget	123
	Sequential Sampling	124
	Final Sample Size	127
	Binomial Trials—Estimating a Proportion	127
	Poisson Counts of Rare Events	128
	Measurements	130
	Almost Normal Data	130
	Strictly Empirical Distributions	131
	Analyzing the One-Way Layout	133
	Initial Sample Size	133
	Animal Experiments	134

Mean-Time-to-Failure Trials	134
Clinical Trials	134
Surveys	134
To Learn More	135

## **PART IV Building a Model**

Prescription	137
Which Variables Do You Wish to Predict?	138
Nature of the Relationship	139
<b>Chapter 12 Ordinary Least Squares</b>	141
Prescription	141
Linear Regression	141
An Example	143
Confidence Intervals	144
Confidence Bounds	146
Distribution-Free Intervals	147
Improving the Fit	148
Diminishing the Effects of Outliers	148
Eliminating Outliers	149
Narrowing the Range	149
Adding Higher-Order Terms to a Model	150
Increasing the Number of Predictors	151
Validation	157
Categorical Predictors	157
Too Many Predictors	158
What about Missing Data?	160
Analysis of Variance	161
Nested Models	161
Summary	162
To Learn More	162
<b>Chapter 13 Alternate Regression Methods</b>	163
Prescription	163
LAD Regression	164
Quantile Regression	166

Errors-in-Variables Regression	168
Generalized Linear Models	169
Poisson Regression	169
Logistic Regression	171
Classification	174
Modeling Survival Data	176
Principal Component Analysis	178
Summary	178
To Learn More	179
<b>Chapter 14</b> Decision Trees	181
Prescription	181
Decision Trees versus Regression	181
How Trees Are Grown	184
Incorporating Existing Knowledge	187
Prior Probabilities	187
Misclassification Costs	187
Minimizing the Cost of Data Collection	188
Using the Decision Tree as an Aid to	
Decision Making	190
Summary	191
To Learn More	191
<b>PART V</b> <i>Reporting Your Results</i>	
<b>Chapter 15</b> Reports	195
Prescription	195
Choose a Journal	196
Methods and Materials	196
Treatment Allocation	197
Blinding	197
Treatments	198
Surveys	198
Results	198
Descriptive Statistics	198
Binomial Trials	198

	Categorical Data	199
	Rare Events	200
	Measurements	200
	Ordinal Data	202
	Survival and Mean-Time-to-Failure Data	203
	Missing Data	203
	Tables	204
	Reporting Your Analyses	205
	<i>p</i> -Values? or Confidence Intervals?	205
	Multiple Tests	207
	Discussion	207
	Introduction	207
	Abstract	208
	Bibliography	208
	Responding to Rejection	208
	To Learn More	209
<b>Chapter 16</b>	<b>Oral Presentations</b>	<b>211</b>
	Prescription	211
	Text	211
	Graphs	212
	Tables	212
<b>Chapter 17</b>	<b>Better Graphics</b>	<b>213</b>
	Prescription	213
	Creating Graphs with R	214
	To Learn More	221
 <b>PART VI Nonrandom Samples</b>		
<b>Chapter 18</b>	<b>Cohort and Case-Control Studies</b>	<b>225</b>
	A Worked-Through Example	225
	Prescription	226
	Examples	227
	To Learn More	228



<b>R Primer</b>	229
<b>Bibliography</b>	233
<b>Author Index</b>	239
<b>Subject Index</b>	???
<b>R Function Index</b>	???



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# Preface

This new text is designed to assist you in the transition from slavish student to bold independent researcher. Use it for a self-help refresher course, as a textbook for a course in research methods, and as a second course in statistics. It contains step-by-step prescriptions, numerous worked-through examples, and the R code you'll need to implement the methods aid in your making use of the material.

You will learn when to use statistics, the best ways to cope with variation, how to design an experiment, how to determine optimal sample size, and how to collect useable data for experiments, clinical trials, and surveys. You will be guided to the best statistical procedures for your current application and taken step by step through model development and reporting your results for publication.

Chapter 1 provides an overall prescription along with guidance as to when and when not to use statistics.

Chapters 2, 3, and 4 walk us through the planning phase.

Chapters 5 and 6 take us step by step through data collection. Methods for sample size determination are deferred to Chapter 11.

A comprehensive guide to contemporary methods in data analysis is provided in Chapter 7 through Chapter 10.

Techniques for developing models that will provide a basis for future research are given in Chapters 12, 13, and 14.

Chapters 15 through 17 describe reporting techniques that will ensure your research efforts get the credit they deserve.

Chapter 18 is devoted to case-control and cohort studies.

Put this book to practical use today. Your comments are welcomed.

**Phillip Good**

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