

BRIEF CONTENTS

Preface xix

Part I Understanding Research

- 1 Psychology, Science, and Life** 1
- 2 Ethics in Research** 38
- 3 Planning Research: Generating a Research Question** 67
- 4 Practical Issues in Planning Your Research** 103
- 5 Measurement and Sampling** 127

Part II Experimental Approaches

- 6 Conducting An Experiment: General Principles** 160
- 7 Experiments with One Independent Variable** 181
- 8 Experiments with Multiple Independent Variables** 208
- 9 Expanding on Experimental Designs: Repeated Measures and Quasi-experiments** 229

Part III Correlational and Nonexperimental Designs

- 10 Principles of Survey Research** 258
- 11 Correlational Research** 287
- 12 Studying Patterns in The Natural World: Observational Approaches** 311
- 13 Research in Depth: Longitudinal and Single-case Studies** 333

Part IV Culture and Research

- 14 People are Different: Considering Cultural and Individual Differences in Research** 361

Appendix A – Writing a Research Report 395
Appendix B – Statistics Review 415
Appendix C – Statistical Tables 441
References 451
Index 495

CONTENTS

Preface xix

Part I Understanding Research

1 Psychology, Science, and Life 1

 Learning Objectives 1

 Key Terms 1

 Chapter Preview 1

 Why are Research Methods Important Tools for Life? 3

 Why Learning About Research is Important 5

 Answering Important Questions 6

 Why We Do Research 7

 Description 8

 Prediction 9

 Explanation 10

 Control 12

 Research Applied to Life: Suicide 12

 What Should You Believe? 13

 Characteristics of Science 14

 Science is Objective 15

 Science is Data-driven 18

 Scientific Methods are Replicable and Results are Verifiable 19

 Science is Public 20

 Culture and Research 21

 The Interaction of Science and Society 22

 The Government’s Role in Science 23

 Societal Values and Science 24

 Scientific Literacy 25

 What Would it Take to Change Your Mind? 26

 Science and Pseudoscience 27

 Warning Signs of Bogus Science 28

 Junk Science 30

 Controversy: The Myth of Vaccination and Autism Continues 30

 What Can You Do About This? 31

 Chapter Summary 32

 Chapter Review Questions 33

 Multiple Choice Questions 33

 Essay Questions 36

 Answers to Chapter Review Questions 36

 Answers to Multiple Choice Questions 36

 Answers to Essay Questions 36

Contents

2	Ethics in Research	38
	Learning Objectives	38
	Key Terms	39
	Chapter Preview	39
	Unethical Research Practices: Past and Present	41
	Ethical Problems in the Early Years of the Twentieth Century	41
	Ethics and Plagiarism	43
	Current Examples of Ethical Lapses	43
	The Impact of Ethical Lapses	46
	Ethical Guidelines Created by the American Psychological Association	46
	Aspirational Goals and Enforceable Rules	47
	Ethical Standards as They Affect You	48
	Legal Requirements and Ethics in Research	50
	Institutional Review Boards	50
	The Importance of Social Context in Deciding on Ethics in Research	51
	Stanley Milgram’s Research Project on Obedience	52
	The Ethical Issues	52
	What You Need to do if Your Research Involves Deception	53
	Some Research May Require Deception	54
	The Effects of Debriefing on Research	55
	The Controversy About Deception	56
	Ethical Issues in Special Circumstances	57
	Ethics in Cross-cultural Research	57
	Ethics in Internet Research	59
	Ethics in Research with Nonhuman Animals	60
	Chapter Summary	61
	Chapter Review Questions	62
	Multiple Choice Questions	62
	Essay Questions	65
	Answers to Chapter Review Questions	66
	Answers to Multiple Choice Questions	66
	Answers to Essay Questions	66
3	Planning Research: Generating a Research Question	67
	Learning Outcomes	67
	Key Terms	67
	Chapter Preview	67
	Where Research Ideas Begin: Everyday Observations and Systematic Research	69
	Informal and Formal Sources of Ideas	70
	The Effect of Theory	71
	How Can You Develop Research Ideas?	74
	Culture and Research	77
	The Virtual Laboratory: Research on the Internet	78
	Internet Research	80
	Factors that can Make a Difference	82
	Advantages to Internet Research	85



- Potential Problems with Internet Research 86
- Checking on Research: The Role of Replication 87
- Don't Reinvent the Wheel: Reviewing the Literature 89
 - What is a Literature Review? 90
 - The Effect of Peer Review on the Research Literature 90
- How to Conduct a Literature Review 91
 - Electronic Databases 91
 - Starting Your Search 91
 - Different Sources of Information 93
- How to Read a Journal Article 94
 - Understanding the Format of a Research Paper 94
- Summary 98
- Chapter Review Questions 99
 - Multiple Choice Questions 99
 - Essay Questions 101
- Answers to Chapter Review Questions 101
 - Answers to Multiple Choice Questions 101
 - Answers to Essay Questions 102
- 4 Practical Issues in Planning Your Research 103**
 - Key Terms 103
 - Chapter Preview 103
 - How Can You Develop a Research Idea? 104
 - Practical Questions in Planning Research 106
 - Understanding Your Research 106
 - Carrying Out a Literature Search 107
 - Conducting Your Study 107
 - Descriptive Research 108
 - Survey Research 108
 - Experimental Research 108
 - Determining the Research Setting 110
 - Choosing Your Methodology 111
 - Approaches to Psychological Research 111
 - Selecting Research Materials and Procedures 113
 - Why Methodology is Important 115
 - Choosing Your Participants or Subjects 116
 - The Nature of Your Participants 117
 - Deciding How Many Participants to Include 118
 - Research Applied to Life: Can Animal Research Help Us Understand Human Stress? 119
 - Differing Approaches in Different Areas of Psychology 120
 - Different Approaches in Different Journals 120
 - Different Types of Participants in Different Journals 121
 - Making Choices in Your Research Design 121
 - Summary 123
 - Chapter Review Questions 124

Contents

Multiple Choice Questions	124
Essay Questions	125
Answers to Chapter Review Questions	126
Answers to Multiple Choice Questions	126
Answers to Essay Questions	126
5 Measurement and Sampling	127
Key Terms	127
Chapter Preview	127
Psychological Concepts	129
Measuring Complex Concepts	129
Operational Definitions	129
Defining and Measuring Variables	131
The Importance of Culture and Context in Defining Variables	135
Multiple Possible Operational Definitions	136
Probability Sampling	136
Simple Random Sampling	137
Systematic Sampling	138
Stratified Random Sampling	138
Cluster Sampling	138
Nonprobability Sampling	140
Convenience Sampling	141
Quota Sampling	142
Purposive (Judgmental) Sampling	142
Chain-referral Sampling	143
Making Useful Measurements	143
Reliability	144
Validity	145
Considering Validity in Research	145
Construct Validity	145
Internal and External Validity	147
Statistical Conclusion Validity	151
Convergent and Divergent Validity	152
Research Applied to Life: The Head Start Program	152
Scales of Measurement	153
Nominal Scales	153
Ordinal Scales	154
Ratio and Interval Scales	154
Summary	155
Chapter Review Questions	156
Multiple Choice Questions	156
Essay Questions	158
Answers to Chapter Review Questions	158
Answers to Multiple Choice Questions	158
Answers to Essay Questions	158

Part II Experimental Approaches

6 Conducting An Experiment: General Principles 160

- Key Terms 160
- Chapter Preview 160
- Choosing a Methodology: The Practicalities of Research 162
- Determining the Causes of Behavior 162
 - Trying to Determine Causation in Research 163
 - Requirements for Cause–Effect Relationships 163
- The Logic of Experimental Manipulation 164
- Research Applied to Life: Withholding Treatment in Research 166
- Experimental Control – Or What Can Go Wrong 167
- Lack of Control in Experimental Research: Extraneous Variables and Confounds 167
 - Do Women Show Fear of Success? 169
- Experimenter and Participant Effects 171
- Minimizing the Likelihood of Experimenter and Participant Effects 172
 - The Hawthorne Effect 173
- Research Applied to Life: Drug-sniffing Dogs 175
- Realism in Research 176
- Summary 177
- Chapter Review Questions 177
 - Multiple Choice Questions 177
 - Essay Questions 180
- Answers to Chapter Review Questions 180
 - Answers to Multiple Choice Questions 180
 - Answers to Essay Questions 180

7 Experiments with One Independent Variable 181

- Key Terms 181
- Chapter Preview 181
- Determining Variables of Interest 183
 - Investigating Psychology and Criminal Justice 183
 - Variety of Research Variables 184
- Independent and Dependent Variables 186
- Using Experiments to Determine Causation 189
- Is it Ethical to Induce Depression in Research? 190
- Types of Independent and Dependent Variables 191
 - Qualitative and Quantitative Independent Variables 192
- Research Applied to Life: What We Believe 194
 - Independent Variables Created by Different Types of Manipulations 195
 - Types of Dependent Variables 197
- Research Applied to Life: Race and Pain 197
- Understanding Your Results 198
 - Comparing Two Groups 198
 - Generalizing Research Results 200

Contents

Comparing Multiple Groups	201
Data Analysis	202
Experiments with Two Groups	202
Experiments with Multiple Groups	203
Summary	204
Chapter Review Questions	204
Multiple Choice Questions	204
Essay Questions	207
Answers to Chapter Review Questions	207
Answers to Multiple Choice Questions	207
Answers to Essay Questions	207
8 Experiments with Multiple Independent Variables	208
Key Terms	208
Chapter Preview	208
Research with Multiple Independent Variables	209
Main Effects	209
Interactions between Variables	211
Not Much Power in the Pose: Illustration of a 2×3 Design with an Interaction	212
A 2×2 Factorial Design with Repeated Measures	214
Research with More Than Two IVs	216
Practical Complexities in Research	217
Research Applied to Life: Racial Prejudice	219
Data Analysis	224
Summary	225
Chapter Review Questions	226
Multiple Choice Questions	226
Essay Questions	228
Answers to Chapter Review Questions	228
Multiple Choice Questions	228
Answers to Essay Questions	228
9 Expanding on Experimental Designs: Repeated Measures and Quasi-experiments	229
Key Terms	229
Chapter Preview	229
Repeated-Measures Designs	231
Advantages of Repeated-Measures Designs	231
Increasing Efficiency in Data Collection	231
Increasing Validity of Data	232
Finding Enough Participants	232
Reducing Error in Measurement	235
Limitations to Repeated-Measures Designs	235
Possible, but Unlikely, Repeated-Measures Designs	235
Subject (Participant) Variables	236
Research Applied to Life: Cell Phones, Alcohol, and Driving	236



- Illustration of a One-variable Design with Repeated Measures 236
- Order and Sequence Effects 237
- Data Analysis with Repeated-Measures Designs 238
- Quasi-experimental Designs 239
 - Causation and Quasi-experimental Designs 240
 - Combining Experimental and Quasi-experimental Designs 240
- Threats to Internal Validity 242
 - Threats Associated with Participants 242
 - Threat Associated with Measurement 243
- Types of Quasi-experimental Designs 245
 - One-group Pretest–Posttest Design 246
 - Static-group Comparison Designs 247
 - Nonequivalent Control Group Designs 247
 - Interrupted Time-series Designs 249
 - Replicated Interrupted Time-series Designs 250
- Research Applied to Life: Laws and Behavior 252
- Summary 254
- Chapter Review Questions 255
 - Multiple Choice Questions 255
 - Essay Questions 256
- Answers to Chapter Review Questions 257
 - Multiple Choice Questions 257
 - Answers to Essay Questions 257

Part III Correlational and Nonexperimental Designs

- 10 Principles of Survey Research 258**
 - Key Terms 258
 - Chapter Preview 258
 - Surveys: Answering Diverse Questions 260
 - Census versus Sample 260
 - Accuracy of Survey Results 261
 - Ethics in Survey Research 262
 - Selecting Your Methodology 262
 - Online Data Collection 264
 - Question Types 265
 - Question Content 267
 - Research Applied to Life: How Many Adolescents Smoke? 272
 - Response Bias 272
 - Social Desirability 273
 - Acquiescence 275
 - Satisficing versus Optimizing 275
 - Culture and Response Styles 276
 - Acquiescent Response Style 277
 - Extreme and Moderate Response Style 277

Contents

Studying Sensitive Issues 278
 Are Telephone Surveys Appropriate for Sensitive Issues? 279
Crowdsourcing in Research 279
Sampling Issues 280
 Finding Hidden Populations 280
Summary 282
Chapter Review Questions 283
 Multiple Choice Questions 283
 Essay Questions 285
Answers to Chapter Review Questions 285
 Answers to Multiple Choice Questions 285
 Answers to Essay Questions 285

11 Correlational Research 287
Key Terms 287
Chapter Preview 287
Correlational Studies 289
 Finding Relationships 289
 Making Predictions 292
 Research in Life: The Media and Violence 293
Using the Correlational Approach 294
 Correlational Studies 295
 Correlational Analysis 295
 Positive and Negative Correlations 295
 Strength of Association 296
 Factors Affecting the Size of a Correlation Coefficient 298
Traditional Correlational Tests 303
 The Pearson Product–Moment Correlation 303
 Alternate Bivariate Correlations 303
 Linear Regression 304
Correlations with Multiple Variables 305
 Multiple Regression 306
 Research Applied to Life: The Mental Health of College Students 306
Summary 308
Chapter Review Questions 308
 Multiple Choice Questions 308
 Essay Questions 310
Answers to Chapter Review Questions 310
 Multiple Choice Questions 310
 Answers to Essay Questions 310

12 Studying Patterns in The Natural World: Observational Approaches 311
Key Terms 311
Chapter Preview 311
Observational Approaches 313
Scientific versus Casual Observation 313



- Studying Natural Behaviors 314
 - Studying Complex Human Behavior 315
 - Ethology 316
 - Describing the Behavior of Nonhuman Animals 317
- Approaches to Observational Research 318
 - Five Practical Steps in Observational Research 318
 - Structured and Unstructured Observations 319
- Sampling Issues in Observational Research 321
 - Number of Sampling Blocks 321
 - Methods of Sampling Events During Observation 322
 - Estimating the Frequency and Duration of Behaviors 324
- Ethological Observations in Clinical Research 325
- The Human Side of Observational Research 325
 - Ethics 325
 - Participant–Observer Interactions 326
 - Subject Reactivity 326
 - Observer Effects 328
 - Data Analysis in Observational Research 329
- Summary 329
- Chapter Review Questions 330
 - Multiple Choice Questions 330
 - Essay Questions 331
- Answers to Chapter Review Questions 332
 - Multiple Choice Questions 332
 - Answers to Essay Questions 332
- 13 Research in Depth: Longitudinal and Single-case Studies 333**
 - Key Terms 333
 - Chapter Preview 333
 - Longitudinal Research 335
 - Common Themes in Longitudinal Research 335
 - Cross-sectional versus Longitudinal Research 336
 - Varieties of Longitudinal Research 337
 - Trend Studies 338
 - Cohort Studies 340
 - Cohort-sequential Studies 340
 - Panel Studies 342
 - Research Applied to Life: Student Achievement 344
 - Issues in Longitudinal Designs 345
 - Retrospective and Prospective Studies 345
 - Attrition 346
 - Single-subject Experimentation 350
 - Experimental Analysis of Behavior 350
 - Methods of Single-case Designs 351
 - Withdrawal Designs 351
 - Single-subject Randomized Clinical Trials 352

Contents

- Strengths of Single-participant Designs 352
- Weaknesses of Single-participant Designs 353
- Misunderstandings about Single-case Research 353
- Case Studies 354
- A Case Study with Experimental Manipulations: Tasting Pointed Chickens and Seeing Colored Numbers 356
- Summary 357
- Chapter Review Questions 357
 - Multiple Choice Questions 357
 - Essay Questions 359
- Answers to Chapter Review Questions 359
 - Multiple Choice Questions 359
 - Answers to Essay Questions 359

Part IV Culture and Research

- 14 People are Different: Considering Cultural and Individual Differences in Research 361
 - Key Terms 361
 - Chapter Preview 361
 - Different Cultural Perspectives 363
 - What is Culture? 364
 - Defining an Individual’s Culture, Ethnicity, and Race 366
 - Criteria for Inclusion in a Group 368
 - Social Issues and Cultural Research 369
 - Cross-cultural Concepts in Psychology 370
 - Are Psychological Constructs Universal? 370
 - Issues in Cross-cultural Research 372
 - Is There a Biological Basis for Race? 373
 - The Criteria for Race 373
 - Biological Insights Regarding Race 374
 - Are There Really Different Races? 375
 - Practical Issues in Cultural Research 376
 - Lack of Appropriate Training among Researchers 376
 - Why the Concepts of Culture and Ethnicity are Essential in Research 377
 - Studying Differences Due to Language and Thought Processes 377
 - Studying Differences in Simple and Complex Behaviors 378
 - Is Culture-free Theory Really Free of Culture? 379
 - Similarities and Differences within the Same Culture 380
 - Cultural Factors in Mental Health Research 381
 - Content Validity 381
 - Translation Problems 382
 - Cross-cultural Norms 382
 - Cross-cultural Diagnoses 384
 - Sex and Gender: Do Men and Women Come From Different Cultures? 386
 - Stereotypes and Gender-related Performance 386



Research Applied to Life: Are Men better than Women at Mathematics? 387

Summary 388

Chapter Review Questions 389

 Multiple Choice Questions 389

 Essay Questions 391

Answers to Chapter Review Questions 391

 Multiple Choice Questions 391

 Answers to Essay Questions 391

Appendix A – Writing a Research Report 395

Appendix B – Statistics Review 415

Appendix C – Statistical Tables 441

References 451

Index 495