Contents

Unit	I Introduction, Orientation, and Some Basic Skills				
	I.1	Using the Summation Operator, Σ	10		
Unit	II S	ummarizing Distributions to Facilitate Interpretation of Data nd the Communication of Findings to Others	17		
	II.1 II.2	Measures of Central Tendency: Mean, Median, and Mode Measures of Dispersion: Range, Quartile Deviation, Variance and Standard Deviation	18		
	TT 9	An "Emor" Interpretation of the Mean and Standard Deviation	40 91		
	11.0 TT /	Computational Routines for Ungrouned Data	51 24		
	II.4 II.5	Computational Routines for Grouped Data	39		
	II.6	A More Common Research Situation: An Occasion for More	00		
		Practice	46		
	11.7	Standardizing Scores: The "z-Transformation"	50		
	11.8	The Normal Distribution	56		
	11.9	The Normalizing Transformation	61		
Unit		Percentage Table Treatment of Bivariate and Multivariate Distributions	65		
	III.1	Some Percentage Table Nomenclature and Basic Procedures of	67		
18	111.9	Construction Reading a Parcentage Table	72		
	111.4 III 9	The Three Variable Percentage Table: "Multivariate Analysis"	81		
	111.0	The Three-Variable Telechtage Table. Multivariate Thaiyas	01		
Unit	IV I E	inear Regression and Correlation: Procedures for Describing Bivariate Relationships Between Interval Scales	119		
	IV.1	Some Basic Concepts	121		
	IV.2	Linear Regression Analysis: Predicting Scores on One Variable	197		
	11/ 9	From Linear Regression to Linear Correlation	129		
	IV.O	Computing the Regression and Correlation Statistics	141		
	IV 5	Linear Correlation Statistics	152		
	IV 6	Interpreting the Correlation Coefficient	158		
	IV.7	A Practice Problem in Regression and Correlation	170		

Unit	V Partial Correlation: Controlling for a Third Variable in Linear Correlation Analyses	179
	 V.1 Review of Some Important Concepts V.2 Partial Correlation V.3 Rationale for the Partial Correlation Coefficient V.4 Computing the Partial Correlation Coefficient and Interpreting 	179 182 184
	 V.4 Computing the Facture Correlation Coefficient and Interpreting the Result V.5 Higher-Order Partials V.6 Partial r and Linear Regression 	187 189 191
Unit	VI The Correlation Ratio: A Measure of Association for Curvilinear Relationships	193
	 VI.1 The Rationale for the Correlation Ratio: Partitioning the Total Sum of Squares into Explained and Unexplained Components VI.2 The Correlation Ratio VI.3 Computing the Correlation Ratio 	194 201 204
Unit	VII Measures of Association for Ordinal and Nominal Variables	211
	VII.1 The Spearman's Rank Order Correlation CoefficientVII.2 The Phi Coefficient: A Measure of Association for Dichotomous	213
	 VII.3 Tau, Gamma, and Somer's d: Measures of Association for Partially Ordered Data VII.4 Cuttman's Lambda: A Measures of Association for Naminal 	219 224
	Data	237
Unit	VIII An Introduction to Statistical Inference	245
	 VIII.1 From Commonsense Inference to Statistical Inference VIII.2 The Basic Concepts of Probability Theory VIII.3 The Rules for Combining Probabilities VIII.4 Counting Procedures 	246 258 264 275
Unit	IX Hypothesis Testing: The Binomial Test and the Binomial Dis- tribution	283
	IX.1 The Binomial TestIX.2 The Normal Approximation for the Binomial	285 293
Unit	 X Hypothesis Testing: Some General Considerations X.1 One- and Two-Tailed Tests X.2 α-Error, β-Error, and the Power of a Test X.3 The Place of Statistical Hypothesis Testing in Social Science 	299 300 305 314

x

Unit	XI One-S	Sample Tests for the Mean: The <i>z</i> -Test and the <i>t</i> -Test	317			
	XI.1 Th	e Sampling Distribution for the One-Sample Test for the				
	Me	ean	319			
	XI.2 Th	e z-Test for the Mean	323			
	XI.3 Th	e One-Sample <i>t</i> -Test for the Mean (σ not Known)	328			
Unit	XII The	Two-Sample t-Test: Three Variations of a Test for Differences				
	Betv	veen Two Means	337			
	XII.1 T	he Sampling Distribution for Differences Between Means	339			
	XII.2 T	he t-Test for Differences Between Means (Two Types)	343			
	XII.3 T	he <i>t</i> -Test for Two Matched Samples	351			
	XII.4 T	he Three Forms of <i>t</i> -Test in Review	355			
Unit	XIII Tes	sting for Differences Between Three or More Means: One-				
	Wa	y Analysis of Variance	361			
	XIII.1 H	Rationale for Partitioning the Total Sum of Squares	364			
	XIII.2 7	The F-Test in One-Way Analysis of Variance	367			
	XIII.3 7	Festing for Differences Between Specific Means	378			
Unit	XIV Test	ting for Independence In a Contingency Table: The Chi-				
	Squ	are Test for Independence	389			
	XIV.1 T	he Null Hypothesis and the Rationale for the Chi-Square				
	T	'est	391			
	XIV.2 C	Computing the Chi-Square Test Statistic and Making the				
	Ľ	Decision About the Null Hypothesis	395			
	XIV.3 A	pplication of the Chi-Square Test	400			
Appendix of Tables						
	Table A	The Standard Normal Distribution	406			
	Table B	Student's t-Distribution	407			
	Table C	The Chi-Square Distribution	408			
	Table D	The <i>F</i> -Distribution	409			
	Table E	The Binomial Distribution	412			
Appe	Appendix of Answers to Self-Test Questions and Practice Problems					
Index						

•

xi