

1. Record Nr.	UNINA9910830347003321
Autore	Rayner John C. W.
Titolo	An introduction to Cochran-Mantel-Haenszel testing and nonparametric ANOVA / / J.C W. Rayner and G.C. Livingston, Jr
Pubbl/distr/stampa	Chichester, England : , : Wiley, , 2023
ISBN	1-119-83202-0 1-119-83199-7
Descrizione fisica	1 online resource (243 pages)
Collana	Wiley series in probability and statistics
Disciplina	519.538
Soggetti	Nonparametric statistics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- Preface -- Chapter 1 Introduction -- 1.1 What Are the CMH and NP ANOVA Tests? -- 1.2 Outline -- 1.3 R -- 1.4 Examples -- 1.4.1 Strawberry Data -- 1.4.2 Homosexual Marriage Data -- Bibliography -- Chapter 2 The Basic CMH Tests -- 2.1 Genesis: Cochran (1954), and Mantel and Haenszel (1959) -- 2.2 The Basic CMH Tests -- 2.2.1 Homosexual Marriage Data -- 2.2.2 Jams Data -- 2.3 The Nominal CMH Tests -- 2.4 The CMH Mean Scores Test -- 2.5 The CMH Correlation Test -- 2.5.1 The CMH C Test Defined -- 2.5.2 An Alternative Presentation of the CMH C Test -- 2.5.3 Examples -- 2.5.3.1 Homosexual Marriage Data -- 2.5.3.2 Whiskey Data -- 2.5.4 Derivation of the CMH C Test Statistic for the RBD with the Same Treatment Scores in Every Stratum -- 2.5.4.1 Jams Data Revisited -- 2.5.5 The CMH C Test Statistic Is Not, in General, LocationScale Invariant -- Bibliography -- Chapter 3 The Completely Randomised Design -- 3.1 Introduction -- 3.2 The Design and Parametric Model -- 3.3 The Kruskal-Wallis Tests -- 3.3.1 MidRank Lemma -- 3.3.2 Whiskey Data Revisited -- 3.4 Relating the Kruskal-Wallis and ANOVA F Tests -- 3.5 The CMH Tests for the CRD -- 3.5.1 Whiskey Data Revisited -- 3.6 The KW Tests Are CMH MS Tests -- 3.7 Relating the CMH MS and ANOVA F Tests -- 3.7.1 The OneWay ANOVA F Test -- 3.7.2 WMS in Terms of the ANOVA F -- 3.7.3 Whiskey Data Revisited -- 3.7.4 Homosexual Marriage Data Revisited -- 3.7.5 Corn Data -- 3.8 Simulation Study -- 3.9 Wald Test Statistics in the CRD --

3.9.1 The Wald Test Statistic of General Association for the CMH Design -- 3.9.2 The Wald Test Statistic for the CMH MS Design -- 3.9.3 The Wald Test Statistic for the CMH C Design -- Bibliography -- Chapter 4 The Randomised Block Design -- 4.1 Introduction -- 4.2 The Design and Parametric Model -- 4.3 The Friedman Tests -- 4.3.1 Jams Data. 4.4 The CMH Test Statistics in the RBD -- 4.4.1 The CMH OPA Test for the RBD -- 4.4.2 The CMH GA Test Statistic for the RBD -- 4.4.3 The CMH MS Test Statistic for the RBD -- 4.4.3.1 Food Products Data -- 4.4.4 The CMH C Test Statistic for the RBD -- 4.4.4.1 Human Resource Data -- 4.5 The Friedman Tests are CMH MS Tests -- 4.6 Relating the CMH MS and ANOVA F Tests -- 4.6.1 Jams Data Revisited -- 4.7 Simulation Study -- 4.8 Wald Test Statistics in the RBD -- Bibliography -- Chapter 5 The Balanced Incomplete Block Design -- 5.1 Introduction -- 5.2 The Durbin Tests -- 5.3 The Relationship Between the Adjusted Durbin Statistic and the ANOVA F Statistic -- 5.3.1 Ice Cream Flavouring Data -- 5.3.2 Breakfast Cereal Data -- 5.4 Simulation Study -- 5.5 Orthogonal Contrasts for Balanced Designs with Ordered Treatments -- 5.5.1 Orthogonal Contrasts -- 5.5.2 Orthogonal Contrasts for Nonparametric Testing in Balanced Designs -- 5.5.2.1 The RBD Example -- 5.5.2.2 The BIBD Example -- 5.5.3 F Orthogonal Contrasts -- 5.5.3.1 The RBD Example -- 5.5.3.2 Lemonade Taste Example -- 5.5.3.3 The BIBD Example -- 5.5.3.4 Ice Cream Flavouring Data -- 5.5.4 Simulation Study -- 5.6 A CMH MS Analogue Test Statistic for the BIBD -- 5.6.1 Ice Cream Flavouring Data -- Bibliography -- Chapter 6 Unconditional Analogues of CMH Tests -- 6.1 Introduction -- 6.1.1 Jams Data Revisited -- 6.2 Unconditional Univariate Moment Tests -- 6.2.1 RBD Example -- 6.3 Generalised Correlations -- 6.3.1 Bivariate Generalised Correlations -- 6.3.2 Age and Intelligence Data -- 6.3.3 Trivariate Generalised Correlations -- 6.3.4 Lizard Data -- 6.4 Unconditional Bivariate Moment Tests -- 6.4.1 Homosexual Marriage Data -- 6.5 Unconditional General Association Tests -- 6.5.1 CrossOver Clinical Data -- 6.5.2 Saltiness Data -- 6.6 Stuart's Test -- Bibliography. Chapter 7 Higher Moment Extensions to the Ordinal CMH Tests -- 7.1 Introduction -- 7.2 Extensions to the CMH Mean Scores Test -- 7.3 Extensions to the CMH Correlation Test -- 7.4 Examples -- 7.4.1 Jams Data -- 7.4.2 Homosexual Marriage Data -- Bibliography -- Chapter 8 Unordered Nonparametric ANOVA -- 8.1 Introduction -- 8.1.1 Strawberry Data -- 8.2 Unordered NP ANOVA for the CMH Design -- 8.3 Singly Ordered ThreeWay Tables -- 8.4 The Kruskal-Wallis and Friedman Tests Are NP ANOVA Tests -- 8.4.1 The Kruskal-Wallis, ANOVA F, and NP ANOVA F Tests on the Ranks Are All Equivalent -- 8.4.2 The Friedman, ANOVA F, and NP ANOVA F Tests Are All Equivalent -- 8.5 Are the CMH MS and Extensions NP ANOVA Tests? -- 8.5.1 Jams Data -- 8.6 Extension to Other Designs -- 8.6.1 Aside. The Friedman Test Revisited -- 8.7 Latin Squares -- 8.7.1 Traffic Data -- 8.8 Balanced Incomplete Blocks -- 8.8.1 Ice Cream Flavouring Data Revisited -- Bibliography -- Chapter 9 The Latin Square Design -- 9.1 Introduction -- 9.2 The Latin Square Design and Parametric Model -- 9.3 The RL Test -- 9.4 Alignment -- 9.5 Simulation Study -- 9.6 Examples -- 9.6.1 Dynamite Data -- 9.6.2 Peanuts Data -- 9.6.3 Traffic Data -- 9.7 Orthogonal Trend Contrasts for Ordered Treatments -- 9.7.1 Dynamite Data Revisited -- 9.7.2 Peanut Data Revisited -- 9.7.3 Traffic Data Revisited -- 9.8 Technical Derivation of the RL Test -- Bibliography -- Chapter 10 Ordered Nonparametric ANOVA -- 10.1 Introduction -- 10.1.1 Strawberry Data Revisited -- 10.2 Ordered NP ANOVA for the CMH Design -- 10.3 Doubly Ordered ThreeWay Tables -- 10.3.1 Whiskey Data Revisited -- 10.3.2 Jams Data Revisited -- 10.4

Extension to Other Designs -- 10.5 Latin Square Rank Tests -- 10.5.1
Doubly Ordered FourWay Tables -- 10.6 Modelling the Moments of the
Response Variable -- 10.7 Lemonade Sweetness Data.
10.8 Breakfast Cereal Data Revisited -- Bibliography -- Chapter 11
Conclusion -- 11.1 CMH or NP ANOVA? -- 11.2 Homosexual Marriage
Data Revisited for the Last Time! -- 11.3 Job Satisfaction Data -- 11.4
The End -- Bibliography -- Appendix A Appendix -- A.1 Kronecker
Products and Direct Sums -- A.2 The Moore-Penrose Generalised
Inverse -- Subject Index -- References Index -- Data Index -- EULA.
