

Journal of Modern Applied Statistical Methods

Volume 5 | Issue 2 Article 1

11-1-2005

Front Matter

JMASM Editors

Follow this and additional works at: http://digitalcommons.wayne.edu/jmasm

Recommended Citation

 $Editors, JMASM\ (2005)\ "Front\ Matter," \textit{ Journal of Modern Applied Statistical Methods}: Vol.\ 5: Iss.\ 2\ , Article\ 1.$

DOI: 10.22237/jmasm/1162353600

 $A vailable\ at: http://digitalcommons.wayne.edu/jmasm/vol5/iss2/1$

This Front Matter is brought to you for free and open access by the Open Access Journals at DigitalCommons@WayneState. It has been accepted for inclusion in Journal of Modern Applied Statistical Methods by an authorized editor of DigitalCommons@WayneState.

```
do i1=1,4
   j(1)=i1
     do i2=1,4
       j(2)=i2
         do i3=1,4
           j(3)=i3
              do i4=1,4
               j(4) = i4
                  if (j(1) .eq. j(2) .or. j(1) .eq. j(3) .or. j(1) .eq. j(4)) cycle
                  if (j(2) .eq. j(3) .or. j(2) .eq. j(4)) cycle
                  if (j(3) .eq. j(4)) cycle
                print*,j(1),j(2),j(3),j(4)
             end do
         end do
    end do
end do
```

Journal of Modern Applied Statistical Methods

Invited Article

283 - 308Robert J. Boik,

Ben Haaland

Second-Order Accurate Inference on Simple,

Partial, and Multiple Correlations

Editor

Shlomo S. Sawilowsky

Evaluation & Research Wayne State University

Associate Editors

Harvey Keselman Bruno D. Zumbo

Department of Psychology Measurement, Evaluation, & Research University of Manitoba University of British Columbia

Assistant Editors

Vance W. Berger **Todd C. Headrick**

Biometry Research Group National Cancer Institute

Educational Psychology Southern Illinois University

Alan Klockars Educational Psychology University of Washington

ISSN: 1538 - 9472/06/\$95.00

Carbondale

Buy Direct and Save!

Quantitative Methods in Education and the Behavioral Sciences: Issues, Research, and Teaching

(sponsored by the American Educational Research Associations Special Interest Group: Educational Statisticians)

Series Editor
Ronald C. Serlin, University of Wisconsin-Madison

Real Data Analysis

Edited by Shlomo S. Sawilowsky, Wayne State University

The invited authors of this edited volume have been prolific in the arena of Real Data Analysis (RDA) as it applies to the social and behavioral sciences, especially in the disciplines of education and psychology. Combined, this brain trust represents 3,247 articles in refereed journals, 127 books published, US \$45.3 Million in extramural research funding, 34 teaching and 92 research awards, serve(d) as Editor/Assistant Editor/Editorial Board Member for 95 peer reviewed journals, and provide(d) ad hoc reviews for 362 journals. Their enormous footprint on real data analysis is showcased for professors, researchers, educators, administrators, and graduate students in the second text in the AERA/SIG ES Quantitative Methods series.

CONTENTS: Preface. Shlomo S. Sawilowsky. PART I: FOUNDATIONS. The Co-Evolution of Statistics and Hz, Joseph M. Hilbe. Effective Sample Size: A Crucial Concept, Thomas R. Knapp. Advances in Missing Data Methods and Implications for Educational Research, Chao-Ying Joanne Peng, Michael Harwell, Show-Mann Liou, Lee H. Ehman. Methods for Simulating Real World Data for the Psycho-Educational Sciences, Todd Christopher Headrick. How and Why I Use Real, Messy Data to Investigate Theory and Inform Decision Making, Ted Micceri. PART II: STATISTICAL METHODS. Using E-Mail Messages to Help Students Prepare for a Statistics Exam, Schuyler Huck. Randomization Tests: Statistical Tools for Assessing the Effects of Educational Interventions When Resources are Scarce, Joel R. Levin. A Skipped Multivariate Measure of Location: One- And Two-Sample Hypothesis Testing, Rand R. Wilcox, H. J. Keselman. Robust Step-Down Tests for Multivariate Group Differences, Lisa M. Lix, Ian Clara, Aynslie Hinds, Charles Bernstein. Dunn-Sidák Critical Values and p Values, Roger E. Kirk, Joel Hetzer. Controlling Experiment-wise Type I Errors: Good Advice for Simultaneous and Sequential Hypothesis Testing, Shlomo S. Sawilowsky, Patric R. Spence. Robustness and Power of Ordinal d for Paired Data, Du Feng. Factorial ANOVA in SPSS: Fixed-, Random-, and Mixed-Effects Models, Richard G. Lomax, Stacy Hughey Surman. ANOVA: Effect Sizes, Simulating Interaction vs. Main Effects, and a Modified ANOVA Table, Shlomo S. Sawilowsky. ANCOVA and Quasi-Experimental Design: The Legacy of Campbell and Stanley, Shlomo S. Sawilowsky. PART III: MEASUREMENT: Thinking About Item Response Theory from a Logistic Regression Perspective: A Focus on Polytomous Models, Amery D. Wu, Bruno D. Zumbo. Some Practical Uses of Item Response Time to Improve the Quality of Low-Stakes Achievement Test Data, Steven L. Wise, Xiaojing Kong. Using Moving Averages to Detect Exposed Test Items in Computer-Based Testing, Ning Han, Ronald K. Hambleton. An Empirical Calibration of the Effects of Multiple Sources of Measurement Error on Reliability Estimates for Individual Differences Measures, Frank L. Schmidt, Huy Ahn Le. Latent Structure of Attitudes toward Abortion, C. Mitchell Dayton. PART IV: DATA ANALYSIS. Hierarchical Linear Models and the Estimation of Students' Mathematics Achievement, Kathrin A. Parks, Dudley L. Poston, Jr. Grade Inflation: An Examination at the Institutional Level, Sharon L. Weinberg. Using Discrete-Time Survival Analysis to Study Gender Differences in Leaving Mathematics, Suzanne E. Graham, Judith D. Singer. Nonparametric procedures for testing for dropout rates on University courses with application to an Italian case study, Rosa Arboretti Giancristofaro, Fortunato Pesarin, Luigi Salmaso, Aldo Solari. Nonparametric Approaches for Multivariate Testing with Mixed Variables and for Ranking on Ordered Categorical Variables with an Application to the Evaluation of Ph. D. Programs, Rosa Arboretti Giancristofaro, Fortunato Pesarin, Luigi Salmaso. Randomized Replicated Single-case Experiments: Treatment of Pain-related Fear by Graded Exposure In Vivo, Patrick Onghena, Johan W. S. Vlaeyen, Jeroen de Jong. Whole Brain Correlations: Examining Similarity Across Conditions of Overall Patterns of Neural Activation in fMRI, Arthur Aron, Susan Whitfield, Wemara Lichty. Principal Component Analysis of Senate Voting Patterns. Jan de Leeuw

In press 2006 Paperback ISBN: 978-1-59311-564-7 \$39.95 Hardcover ISBN: 978-1-59311-565-4 \$73.95

Also Available in the AERA SIG/Educational Statistician Series: Structural Equation Modeling: A Second Course

2005 Paperback ISBN: 1-59311-014-6 \$39.95 Hardcover ISBN: 1-59311-015-4 \$73.95

Published by:

Information Age Publishing Inc., PO Box 4967 Greenwich, CT 06831

Tel: 203-661-7602 Fax: 203-661-7952 URL: www.infoagepub.com

Journal Of Modern Applied Statistical Methods

Shlomo S. Sawilowsky *Editor*College of Education

Wayne State University

Harvey Keselman

Associate Editor

Department of Psychology
University of Manitoba

Bruno D. Zumbo

Associate Editor

Measurement, Evaluation, & Research Methodology
University of British Columbia

Vance W. Berger

Assistant Editor

Biometry Research Group

National Cancer Institute

Todd C. Headrick

Assistant Editor

Educational Psychology and Special Education Southern Illinois University-Carbondale

Alan Klockars

Assistant Editor

Educational Psychology
University of Washington

John L. Cuzzocrea *Editorial Assistant*Educational Research
University of Akron

Editorial Board

Subhash Chandra Bagui

Department of Mathematics & Statistics University of West Florida

J. Jackson Barnette School of Public Health

University of Alabama at Birmingham

Vincent A. R. Camara Department of Mathematics University of South Florida

Ling Chen

Department of Statistics Florida International University

Christopher W. Chiu

Test Development & Psychometric Rsch Law School Admission Council, PA

Jai Won Choi

National Center for Health Statistics

Hyattsville, MD

Rahul Dhanda Forest Pharmaceuticals

New York, NY John N. Dyer

Dept. of Information System & Logistics

Georgia Southern University

Matthew E. Elam

Dept. of Industrial Engineering University of Alabama

Oniversity of 7 habania

Mohammed A. El-Saidi Accounting, Finance, Economics & Statistics, Ferris State University

Felix Famoye

Department of Mathematics Central Michigan University

Barbara Foster

Academic Computing Services, UT Southwestern Medical Center, Dallas

Shiva Gautam

Department of Preventive Medicine

Vanderbilt University

Dominique Haughton

Mathematical Sciences Department

Bentley College

Scott L. Hershberger Department of Psychology

California State University, Long Beach

Joseph Hilbe

Departments of Statistics/ Sociology

Arizona State University

Sin-Ho Jung

Dept. of Biostatistics & Bioinformatics

Duke University

Jong-Min Kim

Statistics, Division of Science & Math

University of Minnesota

Harry Khamis

Statistical Consulting Center Wright State University

Kallappa M. Koti

Food and Drug Administration

Rockville, MD

Tomasz J. Kozubowski Department of Mathematics University of Nevada

Kwan R. Lee

GlaxoSmithKline Pharmaceuticals

Collegeville, PA

Hee-Jeong Lim

Dept. of Math & Computer Science Northern Kentucky University

Balgobin Nandram

Department of Mathematical Sciences Worcester Polytechnic Institute

J. Sunil Rad

Dept. of Epidemiology & Biostatistics Case Western Reserve University

Karan P. Singh

University of North Texas Health Science Center, Fort Worth

Jianguo (Tony) Sun Department of Statistics

University of Missouri, Columbia

Joshua M. Tebbs Department of Statistics Kansas State University

Dimitrios D. Thomakos Department of Economics Florida International University

Justin Tobias

Department of Economics University of California-Irvine

Dawn M. VanLeeuwen

Agricultural & Extension Education New Mexico State University

David Walker

Educational Tech. Rsrch. & Assessment

Northern Illinois University

J. J. Wang

Dept. of Advanced Educational Studies California State University, Bakersfield

Dongfeng Wu

Dept. of Mathematics & Statistics Mississippi State University

Chengjie Xiong

Division of Biostatistics

Washington University in St. Louis

Andrei Yakovlev

Biostatistics and Computational Biology

University of Rochester

Heping Zhang

Dept. of Epidemiology & Public Health

Yale University

INTERNATIONAL

Mohammed Ageel

Dept. of Mathematics, & Graduate School King Khalid University, Saudi Arabia

Mohammad Fraiwan Al-Saleh Department of Statistics

Yarmouk University, Irbid-Jordan Keumhee Chough (K.C.) Carriere Mathematical & Statistical Sciences University of Alberta, Canada

Michael B. C. Khoo Mathematical Sciences Universiti Sains, Malaysia

Debasis Kundu

Department of Mathematics Indian Institute of Technology, India

Christos Koukouvinos Department of Mathematics

National Technical University, Greece

Lisa M. Lix

Dept. of Community Health Sciences University of Manitoba, Canada

Takis Papaioannou

Statistics and Insurance Science University of Piraeus, Greece

Nasrollah Saebi

Computing, Information Systems & Math

Kingston University, UK

Keming Yu

Department of Statistics University of Plymouth, UK

Journal Of Modern Applied Statistical Methods

Invited Articles					
283 – 308	Robert J. Boik, Ben Haaland	Second-Order Accurate Inference on Simple, Partial, And Multiple Correlations			
Regular Articles 309 – 316 Rand R. Wilcox		Inferences About The Components Of A Generalized Additive Model			
317 – 322	Markus Neuhäuser, Ludwig A. Hothorn	Maximum Tests Are Adaptive Tests			
323 – 327	Vee Ming Ng	Inference for P(Y <x) and="" distributions<="" exponential="" for="" related="" th=""></x)>			
328 – 331	Sat Gupta, Javid Shabbir	An Alternative to Warner's Randomized Response Model			
332 – 343	Gibbs Y. Kanyongo	The Influence of Reliability on Four Rules for Determining the Number of Components to Retain			
344 – 346	Marley W. Watkins	Determining Parallel Analysis Criteria			
347 – 355	Leming Qu, Yi-Cheng Tu	Change Point Estimation of Bilevel Functions			
356 – 366	Ayman Baklizi, Amjad AL-Nasser	Large Sample and Bootstrap Intervals for the Gamma Scale Parameter Based On Grouped Data			
367 – 380	B. M. Golam Kibria	Applications of Some Improved Estimators in Linear Regression			
381 – 389	Mohammed Ebrahem	Bootstrap Intervals of the Parameters of Lognormal Distribution Using Power Rule Model and Accelerated Life Tests			
390 – 394	Seemon Thomas, S. C. Bagui, D. K. Ghosh, Alex Thannippara	Determination of Optimal Block Designs with Pre-assigned Variance for Elementary Contrasts			
395 – 407	Kung-Jong Lui	Interval Estimation of Risk Difference in Simple Compliance Randomized Trials			
408 – 416	H. E. T. Holgersson	Simulation of Non-normal Auto Correlated Variables			

417 – 431	Vicki S. Hertzberg, Fan Xu, Michael Haber	Restricted Quasi-independent Model Resolves Paradoxical Behaviors of Cohen's Kappa
432 – 442	Jamis J. Perrett	A Method For Analyzing Unreplicated Experiments Using Information on the Intraclass Correlation Coefficient
443 – 451	David A. Walker	A Comparison of the Spearman-Brown and Flanagan-Rulon Formulas for Split Half Reliability under Variance Parameter Conditions
452 – 457	James F. Reed, III	AB/BA Crossover Trials - Binary Outcome
458 – 463	Ramalingam Shanmugam, Anwar Hassan, Peer B. Ahmad	Correlation Between the Number of Epileptic and Healthy Children in Family Size that Follows a Size-Based Modified Power Series Distribution
464 – 474	Michael B. C. Khoo, S. Y. Sim	A Robust Exponentially Weighted Moving Average Control Chart for the Process Mean
475 – 489	M.L.Aggarwal, S.Roy Chowdhury, Anita Bansal, Neena Mital	Interaction Graphs for 4r2n-p Fractional Factorial Designs
490 – 494	Kenneth Lachlan, Patric R. Spence	Corrections for Type I Error in Social Science Research: A Disconnect Between Theory and Practice
495 – 512	Mammadagha Mammadov Berna Yazıcı, Şenay Yolacan, Atilla Aslanargun, Ali Fuat Yüzer, Embiya Ağ	y, Statistical Methods and Artificial Neural Networks
513 – 528	N. Ismail Abdul Aziz Jemain	A Comparison of Risk Classification Methods for Claim Severity Data
529 – 537	Maria D. S. Paraguas, Anton A. Kamil	Estimation of Meat Demand System in Malaysia: Model Selection Between the Rotterdam model and the Almost Ideal Demand System (AIDS)
<i>Brief Repor</i> 538 – 541	ts Michael Wolf-Branigin	Supporting and Preparing Future Decision-makers with the Needed Tools

Early Scholars

542 – 550 **Betül Kan,** The Individuals Control Chart in Case of Non-

Berna Yazici Normality

Statistical Software Applications and Review

551 – 566 **David A. Heiser** Statistical Tests, Tests of Significance, and Tests of

a Hypothesis (Excel)

Algorithms and Code

567 – 574 **Todd C. Headrick** JMASM24: Numerical Computing for Third-

Order Power Method Polynomials (Excel)

575 – 588 Sikha Bagui, JMASM25: Computing Percentiles of Skew-

Subhash Bagui Normal Distributions (Visual Basic)

Translations, Ephemerals, & Biographies

589 – 592 Shlomo S. Sawilowsky, Joseph Liouville's 'Mathematical Works Of

John L. Cuzzocrea Évariste Galois'

593 – 595 **John L. Cuzzocrea**, Pietro Paoli, Italian Algebraist

Shlomo S. Sawilowsky

JMASM is an independent print and electronic journal (http://tbf.coe.wayne.edu/jmasm), publishing (1) new statistical tests or procedures, or the comparison of existing statistical tests or procedures, using computer-intensive Monte Carlo, bootstrap, jackknife, or resampling methods, (2) the study of nonparametric, robust, permutation, exact, and approximate randomization methods, and (3) applications of computer programming, preferably in Fortran (all other programming environments are welcome), related to statistical algorithms, pseudorandom number generators, simulation techniques, and self-contained executable code to carry out new or interesting statistical methods.

Editorial Assistant: **John Cuzzocrea** Production Staff: **Christina Gase** Internet Sponsor: **Paula C. Wood**, Dean, College of Education, Wayne State University

Cushing-Malloy, Inc.	(888) 295-7244 toll-free (Phone)	Sales & Information:
Internet: www.cushing-malloy.com	(734) 663-5731 (Fax)	skehoe@cushing-malloy.com

STATISTICIANS

HAVE YOU VISITED THE

Mathematics Genealogy Project?

The Mathematics Genealogy Project is an ongoing research project tracing the intellectual history of all the mathematical arts and sciences through an individual's Ph.D. advisor and Ph.D. students. Currently we have over 80,000 records in our database. We welcome and encourage all statisticians to join us in this endeavor.



Please visit our web site

http://genealogy.math.ndsu.nodak.edu

The information which we collect is the following:

The full name of the individual, the school where he/she earned a Ph.D., the year of the degree, the title of the dissertation, and, MOST IMPORTANTLY, the full name of the advisor(s). E.g., Fuller, Wayne Arthur; Iowa State University; 1959; *A Non-Static Model of the Beef and Pork Economy*; Shepherd, Geoffrey Seddon

For additions or corrections for one or two people a link is available on the site. For contributions of large sets of names, e.g., all graduates of a given university, it is better to send the data in a text file or an MS Word file or an MS Excel file, etc. Send such information to:

harry.coonce@ndsu.nodak.edu

The genealogy project is a not-for-profit endeavor supported by donations from individuals and sales of posters and t-shirts. If you would like to help this cause please send your tax-deductible contribution to: Mathematics Genealogy Project, 300 Minard Hall, P. O. Box 5075, Fargo, North Dakota 58105-5075E