A SHORT BIBLIOGRAPHY OF RECENT DEVELOPMENTS
IN SELECTION AND RANKING PROCEDURES*

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Technical Report #85-11

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May 1985

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TABLE OF CONTENTS

1. THEORY

Alam, K. and Rizvi, M. H. (1966). Selection from multivariate populations. *Annals of Institute of Statistical Mathematics*, 18, 307-318.

Arvesen, J. N. and McCabe, G. P., Jr. (1975). Subset selection problems of variances with applications to regression analysis. *Journal of American Statistical Association*, 70, 166-170.

Barlow, R. E. and Gupta, S. S. (1969). Selection procedures for restricted families of distributions. *Annals of Mathematical Statistics*, 40, 905-917.

Barron, A. M. and Gupta, S. S. (1972). A class of non-eliminating sequential multiple decision procedures. *Operations Research-Verfahren* (Henn, Künzi and Schubert, eds.), Verlag Anton Hein, Meisenheim am Glan, Germany, 11-37.

Bechhofer, R. E. (1954). A single-sample multiple decision procedure for ranking means of normal populations with known variances. *Annals of Mathematical Statistics*, 25, 16-39.

Berger, R. L. (1979). Minimax subset selection for loss measured by subset size. *Annals of Statistics*, 7, 1333-1338.

Berger, R. L. (1981). Selecting all treatmeants better than a control using existing tables. *Communications in Statistics - Theory and Methods*, A10, 2025-2037.

Berger, R. L. and Gupta, S. S. (1980). Minimax subset selection rules with applications to unequal variance (unequal sample size) problem. *Scandinavian Journal of Statistics*, 7, 21-26.

Bickel, P. J. and Yahav, J. A. (1977). On selecting a subset of good populations. *Statistical Decision Theory and Related Topics-II* (S. S. Gupta and D. S. Moore, eds.), Academic Press, New York, 37-55.

Bjørnstad, J. F. (1980). Comparison of three minimax subset selection procedures. *Technometrics*, 22, 617-620.

Carroll, R. J., Gupta, S. S. and Huang, D. Y. (1975). On selection procedures for the t best populations and some related problems. *Communications in Statistics*, 4, 987-1008.

Chen, H., Chen, S.-Y. and Sirichote, J. (1985). Selecting all treatments better than a control with a binomial prior distribution. *Communications in Statistics - Simulation and Computation*, B14(1), 187-221.

Chen, P. (1985). On the least favorable configuration in multinomial selection problems. To be appeared in *Communications in Statistics–Theory and Methods*, 14.

Chen, R. and Hwang, F. (1984). Some theorems, counterexamples, and conjetures in multinomial selection theory. *Communications in Statistics–Theory and Methods*, 13(10), 1289-1298.

Chernoff, H. and Yahav, J. (1977). A subset selection problem employing a new criterion. *Statistical Decision Theory and Related Topics-II* (S. S. Gupta and D. S. Moore, eds.), Academic Press, New York, 93-119.

Deely, J. J. (1965). Multiple Decision Procedures from an Empirical Bayes Approach. Ph.D. Thesis (Also Mimeograph Series No. 45), Department of Statistics, Purdue University, West Lafayette, Indiana.

Deely, J. J. and Gupta, S. S. (1968). On the properties of subset selection procedures. *Sankhyā Series A*, 30, 37-50.

Deverman, J. N. and Gupta, S. S. (1969). On a selection procedure concerning the t best populations. Technical Report, Sandia Laboratories, Livermore, California. Also Abstract: *Annals of Mathematical Statistics*, 40(1969), 1870.

Edwards, D. G. and Hsu, J. (1983). Multiple comparisons with the best treatment. *Journals of American Statistical Association*, 78, 965-971.

Gnanadesikan, M. and Gupta, S. S. (1970). A selection procedure for multivariate normal distributions in terms of the generalized variances. *Technometrics*, 12, 103-117.

Goel, P. K. and Rubin, H. (1977). On selecting a subset containing the best population. *Annals of Statistics*, 5, 969-983.

Gupta, S. S. (1956). On a decision rule for a problem in ranking means. Mimeograph Series No. 150, Institute of Statistics, University of North Carolina, Chapel Hill, North Carolina.

Gupta, S. S. (1963). On a selection and ranking procedures for gamma populations. *Annals of Institute of Statistical Mathematics*, 14, 199-216.

Gupta, S. S. (1965). On some multiple decision (selection and ranking) rules. *Technometrics*, 7, 225-245.

Gupta, S. S. (1966). On some selection and ranking procedures for multivariate normal populations using distance functions. *Multivariate Analysis* (P. R. Krishnaiah, ed.), Academic Press, New York, 457-475.

Gupta, S. S. and Hsiao, P. (1981). On Γ-minimax, minimax, and Bayes procedures for selecting populations close to a control. *Sankhyā Series B*, 43, 291-318.

Gupta, S. S. and Hsiao, P. (1983). Empirical Bayes rules for selecting good populations. *Journal of Statistical Planning and Inference*, 8, 87-101.

Gupta, S. S. and Hsu, J. C. (1978). On the performance of some subset selection procedures. *Communications in Statistics - Simulation and Computation*, B7, 561-591.

Gupta, S. S. and Hsu, J. C. (1984). A computer package for ranking, selection, and multiple comparisons with the best. *Proceedings of the 1984 Winter Simulation Conference* (S. Sheppard, U. Pooch and D. Pegden, eds.), 251-257.

Gupta, S. S. and Huang, D.-Y. (1975a). On subset selection procedures for Poisson populations and some applications to the multinomial selection problems. *Applied Statistics* (R. P. Gupta, ed.), North Holland, Amsterdam, 97-109.

Gupta, S. S. and Huang, D.-Y. (1975b). On some parametric and nonparametric sequential subset selection procedures. *Statistical Inference and Related Topics*, Vol. 2 (M. L. Puri, ed.), Academic Press, New York, 101-128.

Gupta, S. S. and Huang, D.-Y. (1976a). Subset selection procedures for the means and variances of normal populations: Unequal sample sizes case. *Sankhyā Series B*, 38, 112-128.

Gupta, S. S. and Huang, D.-Y. (1976b). On subset selection procedures for the entrophy function associated with the binomial populations. *Sankhyā Series A*, 38, 153-173.

Gupta, S. S. and Huang, D.-Y. (1977). On some Γ-minimax selection and multiple comparison procedures. *Statistical Decision Theory and Related Topics-II* (S. S. Gupta and D. S. Moore, eds.), Academic Press, New York, 139-155.

Gupta, S. S. and Huang, D.-Y. (1980a). A note on optimal subset selection procedures. *Annals of Statistics*, 8, 1164-1167.

Gupta, S. S. and Huang, D.-Y. (1980b). An essentially complete class of multiple decision procedures. *Journal of Statistical Planning and Inference*, 4, 115-121.

Gupta, S. S., Huang, D.-Y. and Chang, C.-L. (1984). Selection procedures for optimal subsets of regression variables. *Design of Experiments: Ranking and Selection* (T. J. Santner and A. C. Tamhane, eds.), Marcel Dekker, New York, 67-75.

Gupta, S. S., Huang, D.-Y. and Huang, W.-T. (1976). On ranking and selection procedures and

tests of homogeneity for binomial populations. *Essays in Probability and Statistics* (S. Ikeda, T. Hayakawa, H. Hudimoto, M. Okamoto, M. Siotani and S. Yamamoto, eds.), Shinko Tsusho Co. Ltd., Tokyo, Japan, Chapter 33, 501-533.

Gupta, S. S., Huang, D.-Y. and Nagel, K. (1979). Locally optimal subset selection procedures based on ranks. *Optimizing Methods in Statistics* (J. S. Rustagi, ed.), Academic Press, New York, 251-260.

Gupta, S. S. and Huang, W.-T. (1974). A note on selecting a subset of normal populations with unequal sample sizes. *Sankhyā Series A*, 36, 389-396.

Gupta, S. S. and Huang, W.-T. (1982). On isotonic selection rules for binomial populations better than a standard. Technical Report No. 82-22, Department of Statistics, Purdue University. To appear in the *Proceedings of the First Saudi Symposium on Statistics and Its Applications*, held in May 1983.

Gupta, S. S. and Kim, W.-C. (1980). Γ-minimax and minimax decision rules for comparison of treatments with a control. *Recent Developments in Statistical Inference and Data Analysis* (K. Matusita, ed.), North Holland, 55-71.

Gupta, S. S. and Kim, W.-C. (1981). On the problem of selecting good populations. *Communications in Statistics - Theory and Methods*, A10, 1043-1077.

Gupta, S. S. and Kim, W.-C. (1984). A two-stage elimination type procedure for selecting the largest of several normal means with a common unknown variance. *Design of Experiments: Ranking and Selection* (T. J. Santner and A. C. Tamhane, eds.), Marcel Dekker, New York, 77-93.

Gupta, S. S. and Leong, Y.-K. (1979). Some results on subset selection procedures for double exponential populations. *Decision Information* (C. P. Tsokos and R. M. Thrall, eds.), Academic Press, New York, 277-305.

Gupta, S. S. and Leu, L.-Y. (1983a). On Bayes and empirical Bayes rules for selecting good populations. Technical Report No. 83-37, Department of Statistics, Purdue University, West Lafayette, Indiana.

Gupta, S. S. and Leu, L.-Y. (1983b). Isotonic procedures for selecting populations better than a standard: two-parameter exponential distributions. Technical Report No. 83-46, Department of Statistics, Purdue University, West Lafayette, Indiana.

Gupta, S. S. and Liang, T.-C. (1984). Locally optimal subset selection rules based on ranks under joint type II censoring. Technical Report No. 84-33, Department of Statistics, Purdue University, West Lafayette, Indiana.

Gupta, S. S. and Lu, M.-W. (1979). Subset selection procedures for restricted families of probability distributions. *Annals of Institute of Statistical Mathematics*, 31, 235-252.

Gupta, S. S. and McDonald, G. C. (1970). On some classes of selection procedures based on ranks. *Nonparametric Techniques in Statistical Inference* (M. L. Puri, ed.), Cambridge University Press, London, 491-514.

Gupta, S. S. and Miescke, K.-J. (1982a). On the least favorable configurations in certain two-stage selection procedures. *Statistics and Probability: Essays in Honor of C. R. Rao* (G. Kallianpur, P. R. Krishnaiah and J. K. Ghosh, eds.), North-Hollander, Amsterdam, 295-305.

Gupta, S. S. and Miescke, K.-J. (1982b). On the problem of finding a best population with respect to a control in two stages. *Statistical Decision Theory and Related Topics-III*, Vol. 1 (S. S. Gupta and J. O. Berger, eds.), Academic Press, New York, 473-496.

Gupta, S. S. and Miescke, K.-J. (1984a). On two-stage Bayes selection procedures. *Sankhyā Series B*, 46, 123-134.

Gupta, S. S. and Miescke, K.-J. (1984b). Sequential selection procedures -A decision-theoretic approach. *Annals of Statistics*, 12, 336-350.

Gupta, S. S. and Nagel, K. (1967). On selection and ranking procedures and order statistics from the multinomial distribution. *Sankhyā Series B*, 29, 1-34.

Gupta, S. S. and Nagel, K. (1971). On some contributions to multiple decision theory. *Statistical Decision theory and Related Topics* (S. S. Gupta and J. Yackel, eds.), Academic Press, New York, 79-102.

Gupta, S. S., Nagel, K. and Panchapakesan, S. (1973). On the order statistics from equally correlated normal random variables. *Biometrika*, 60, 403-413.

Gupta, S. S. and Panchapakesan, S. (1969). Some selection and ranking procedures for multivariate normal populations. *Multivariate Analysis-II* (P. R. Krishnaiah, ed.), Academic Press, New York, 475-505.

Gupta, S. S. and Panchapakesan, S. (1972). On a class of subset selection procedures. *Annals of Mathematical Statistics*, 43, 814-822.

Gupta, S. S. and Panchapakesan, S. (1974). Inference for restricted families: (a) multiple decision procedures; (b) order statistics inequalities. *Reliability and Biometry* (F. Proschan and R. J. Serfling, eds.), SIAM, Philadelphia, 503-596.

Gupta, S. S. and Panchapakesan, S. (1975). On a quantile selection procedure and associated distribution of ratio of order statistics from a restricted family of probability distributions. *Reliability and Fault Tree Analysis* (R. E. Barlow, J. B. Fussell and N. D. Singpurwalla, eds.), SIAM, Philadelphia, 557-576.

Gupta, S. S., Panchapakesan, S. and Sohn, J. (1985). On the distribution of the studentized maximum of equally correlated normal random variates. *Communications in Statistics*, B 14(1), 103-135.

Gupta, S. S. and Santner, T. J. (1973). On selection and ranking procedures - a restricted subset selection rules. *Proceedings of the 39th Session of the International Statistical Institute*, Vol. 45, Book I, 478-486.

Gupta, S. S. and Singh, A. K. (1980). On rules based on sample medians for selection of the largest location parameter. *Communications in Statistics - Theory and Methods*, A9, 1277-1298.

Gupta, S. S. and Sobel, M. (1960). Selecting a subset containing the best of several binomial populations. *Contributions to Probability and Statistics* (I. Olkin, S. G. Ghurye, W. Hoeffding, W. G. Madow and H. B. Mann, eds.), Stanford University Press, Stanford, California, Chapter 20, 224-248.

Gupta, S. S. and Sobel, M. (1962a). On selecting a subset containing the population with the smallest variance. *Biometrika*, 49, 495-507.

Gupta, S. S. and Sobel, M. (1962b). On the smallest of several correlated F-statistics. *Biometrika*, 49, 509-523.

Gupta, S. S. and Studden, W. J. (1970). On a ranking and selection procedure for multivariate populations. *Essays in Probability and Statistics* (R. C. Bose, I. M. Chakravarti, P. C. Mahalanobis, C. R. Rao and K. J. C. Smith, eds.), University of North Carolina Press, Chapel Hill, Chapter 16, 327-338.

Gupta, S. S. and Wong, W.-Y. (1977a). Subset selection procedures for finite schemes in information theory. *Colloquia Mathematica Societatis János Bolyai*, 16: *Topics in Information Theory* (I. Csiszár and P. Elias, eds.), 279-291.

Gupta, S. S. and Wong, W.-Y. (1977b). On subset selection procedures for Poisson processes and some applications to the binomial and multinomial problems. *Operations Research Verfahren* (R. Henn *et al.*, eds.), Verlag Anton Hain, Meisenheim am Glan, Germany, 49-70.

Gupta, S. S. and Wong, W.-Y. (1982). Subset selection procedures for the means of normal populations with unequal variances: unequal sample sizes case. *Selecta Statistica Canadiana*, Vol. 6, 109-149.

Gupta, S. S. and Yang, H.-M. (1984a). Isotonic procedures for selecting populations better than a control under ordering prior. *Statistics: Applications and New Directions*, Proceedings of the Indian Statistical Institute Golden Jubilee International Conference (J. K. Ghosh and J. Roy, eds.), 279-312.

Gupta, S. S. and Yang, H.-M. (1984b). Bayes-P* subset selection procedures for the best population. Technical Report No. 84-2, Department of Statistics, Purdue University, West Lafayette, Indiana.

Hocking, R. R. (1976). The analysis and selection of variables in regression analysis. *Biometrics*, 32, 1-49.

Hooper, J. H. and Santner, T. J. (1979). Design of experiments for selection from ordered families of distributions. *Annals of Statistics*, 7, 615-643.

Hsu, J. C. (1980). Robust and nonparametric subset selection procedures. *Communications in Statistics - Theory and Methods*, A9, 1439-1459.

Hsu, J. C. (1981a). A class of nonparametric subset selection procedures. *Sankhyā Series B*, 43, 235-244.

Hsu, J. C. (1981b). Simultaneous confidence intervals for multiple comparisons with the best. *Annals of Statistics*, 9, 1026-1034.

Hsu, J. C. (1984a). Ranking, selection, and multiple comparisons with the best. Chpater 3, *Design of Experiments: Ranking and Selection*, (T. J. Santner and A. C. Tamhane, eds.), Marcel Dekker, New York, 23-34.

Hsu, J. C. (1984b). Constrained simultaneous confidence intervals for multiple comparisons with the best. *Annals of Statistics* 12, 1136-1144.

Hsu, J. C. and Edwards, D. G. (1983). Sequential multiple comparisons with the best. *Journals of American Statistical Association*, 78, 958-964.

Hsu, T.-A. and Huang, D.-Y. (1982). Some sequential selection procedures for good regression models. *Communications in Statistics - Theory and Methods*, A11, 411-421.

Huang, D.-Y. and Panchapakesan, S. (1976). A modified subset selection formulation with special reference to one-way and two-way layout experiments. *Communications in Statistics - Theory and Methods*, A5, 621-633.

Huang, D.-Y. and Panchapakesan, S. (1978). A subset selection formulation of the complete ranking problems. *Journal of Chinese Statistical Association*, 16, 5801-5810.

Huang, D.-Y. and Panchapakesan, S. (1982a). On eliminating inferior regression models. *Communications in Statistics - Theory and Methods*, A11, 751-759.

Huang, D.-Y. and Panchapakesan, S. (1982b). Some locally optimal subset selection rules based on ranks. *Statistical Decision Theory and Related Topics-III*, Vol. 2 (S. S. Gupta and J. O. Berger, eds.), Academic Press, New York, 1-14.

Huang, D.-Y., Panchapakesan, S. and Tseng, S.-T. (1984). Some locally optimal subset selection rules for comparison with a control. *Journal of Statistical Planning and Inference*, 9, 63-72.

Huang, W.-T. (1984). Nonparametric Isotonic Selection Rules Under a Prior Ordering. *Design of Experiments: Ranking and Selection* (T. J. Santner and A. C. Tamhane, eds.), Marcel Dekker, New York, 95-112.

Jeyaratnam, S. and Panchapakesan, S. (1984). An estimatiron problem relating to subset selection for normal populations. *Design of Experiments: Ranking and Selection* (T. J. Santner and A. C. Tamhane, eds.), Marcel Dekker, New York, 287-301.

Kiefer, J. (1977a). Conditional confidence and estimated confidence in multidecision problems (with applications to selection and ranking). *Multivariate Analysis-IV* (P. R. Krishnaiah,

ed.), North Holland Publishing Company, Amsterdam, 143-158.

Kiefer, J. (1977b). Conditional confidence statements and confidence estimators. *Journal of American Statistical Association*, 72, 789-808.

Krishnaiah, P. R. (1967). Selection procedures based on covariance matrices of multivariate normal populations. *Blanch Anniversary Volume*, Aerospace Research Laboratories, U. S. Air Force, Dayton, Ohio, 147-160.

Krishnaiah, P. R. and Rizvi, M. H. (1966). Some procedures for selection of multivariate normal populations better than a control. *Multivariate Analysis* (P. R. Krishnaiah, ed.), Academic Press, New York, 477-490.

Lee, S.-H. and Kim, W.-C. (1985). An elimination type two-stage selection procedure for exponential distributions. Accepted for Publication in *Communications in Statistics - Theory and Methods*, 14.

Lorenzen, T. J. and McDonald, G. C. (1981). Selecting logistic populations using the sample medians. *Communications in Statistics - Theory and Methods*, A10, 101-124.

McDonald, G. C. (1972). Some multiple comparison selection procedures based on ranks. *Sankhyā Series A*, 34, 53-64,

McDonald, G. C. (1974). Characteristics of three selection rules based on ranks in a small exponential case. *Sankhyā Series B*, 36, 261-266.

Miescke, K.-J. (1984). Two-Stage Selection Procedures based on Tests. *Design of Experiments: Ranking and Selection* (T. J. Santner and A. C. Tamhane, eds.), Marcel Dekker, New York, 165-178.

Panchapakesan, S. (1971). On a subset selection procedure for the most probable event in a multinomial distribution. *Statistical Decision Theory and Related Topics* (S. S. Gupta and J. Yackel, eds.), Academic Press, New York, 275-298.

Panchapakesan, S. (1973). On a subset selection procedure for the best multinomial cell and related problems. Abstract, *Bulletin of Institute of Mathematical Statistics*, 2, 112-113.

Panchapakesan, S. and Santner, T. J. (1977). Subset selection procedures for Δ_p-superior populations. *Communications in Statistics - Theory and Methods*, A6, 1081-1090.

Rizvi, M. H. and Sobel, M. (1967). Nonparametric procedures for selecting a subset containing the population with the largest α-quantile. *Annals of Mathematical Statistics*, 38, 1788-1803.

Santner, T. J. (1973). A Restricted Subset Selection Approach to Ranking and Selection Problems. Ph.D. Thesis (Also Mimeograph Series No. 318), Department of Statistics, Purdue University, West Lafayette, Indiana.

Santner, T. J. (1975). A restricted subset selection approach to ranking and selection problems. *Annals of Statistics*, 3, 334-349.

Studden, W. J. (1967). On selecting a subset of k populations containing the best. *Annals of Mathematical Statistics*, 38, 1072-1078.

Tamhane, A. C. and Bechhofer, R. E. (1977). A two-stage minimax procedure with screening for selecting the largest normal mean. *Communications in Statistics - Theory and Methods*, A6, 1003-1033.

Tamhane, A. C. and Bechhofer, R. E. (1979). A two-stage minimax procedure with screening for selecting the largest normal mean (II): an improved PCS lower bound and associated tables. *Communications in Statistics - Theory and Methods*, A8, 337-358.

Thompson, M. L. (1978a). Selection of variables in multiple regression: Part I. A review and evaluation. *International Statistical Review*, 46, 1-19.

Thompson, M. L. (1978b). Selection of variables in multiple regression: Part II. Chosen procedures, computations and examples. *International Statistical Review*, 46, 129-146.

2. APPLICATIONS

Amer, P. D. and Mamrak, S. A. (1980). Statistical procedures for interactive computer service selection. *Proceedings of ICCC 80-International Computer Communications Conference*, Atlanta, Georgia, to appear.

Becker, W. A. (1961). Comparing entries in random sample tests. *Poultry Science*, 40, 1507-1514.

Becker, W. A. (1962). Ranking all-or-none traits in random sample tests. *Poultry Science*, 41, 1437-1438.

Becker, W. A. (1964). Changes in performance of entries in random sample tests. *Poultry Science*, 43, 716-722.

Chew, V. (1977a). Comparison Among Treatment Means in an Analysis of Variance. Report ARS/H/6, Agricultural Research Service, U. S. Department of Agriculture, Washington, DC.

Chew, V. (1977b). Statistical hypothesis testing: An academic exercise in futility. *Proceedings of Florida State Horticultural Society*, 90, 214-215.

Dalal, S. R. and Srinivasan, V. (1976). Determining sample size for pre-testing comparative effectiveness of advertising copies. Unpublished manuscript. To appear in *Management Science*.

Dudewicz, E. J. and Lee, Y. J. (1978). How to select the best contender. ASQC ATC Transactions, 32, 546-552. Available on Tape from JML Audio/Video, Inc.

Dudewicz, E. J. and Lee, Y. J. (1980). Awardee selection procedures, with special reference to the Frank Wilcoxon and Jack Youden prizes. *Technometrics*, 22, 121-124.

Gerber, H. U. (1979). Baseball competitions - are enough games played ?, Letter to the Editor, *American Statistician*, 33, 228-229.

Gibbons, J. D., Olkin, I. and Sobel, M. (1978). Baseball competitions - are enough games played ?, *American Statistician*, 32, 89-95.

Gibbons, J. D., Olkin, I. and Sobel, M. (1979). Reply, *American Statistician*, 33, 229.

Gibbons, J. D., Olkin, I. and Sobel, M. (1979). A subset selection technique for scoring items on a multiple choice test. *Psychometrika*, 44, 259-270.

Goodman, M. L. (1979). Baseball competitions - are enough games played ?, Letter to the Editor, *American Statistician*, 33, 228.

Gupta, S. S. and Hsu, J. C. (1980). Subset selection procedures with application to motor vehicle fatality data in a two-way layout. *Technometrics*, 22, 543-546.

Gupta, S. S. and Panchapakesan, S. (1980). Some statistical techniques for climatological data. *Statistical Climatology Developments in Atmospheric Science*, 13 (S. Ikeda, *et al.*, eds.), Elsevier Scientific Publishing Company, 35-48.

Kleijnen, J. P. C., Naylor, T. H. and Seaks, T. G. (1972). The use of multiple ranking procedures to analyze simulations of management system: A tutorial. *Management Science*, Application Series, 18, B 245-257.

Lee, Y. J. (1980). Nonparametric selections in blocked data: application to motor vehicle fatality rate data. *Technometrics*, 22, 535-542.

Lin, W. T. (1976). An application of multiple-ranking procedures to analyze simulations of accounting systems. *Proceedings of the 1976 American Institute for Decision Sciences Conference*.

Lin, W. T. (1978). Multiple objective budgeting models: A simulation. *Accounting Review*, 53,

676.

Lorenzen, T. J. and McDonald, G. C. (1980). A nonparametric analysis of urban and rural traffic fatality rates. Research Publication GMR-3341, Mathematics Department, General Motors Research Laboratories, Warren, Michigan.

Mamrak, S. A. and Amer, P. D. (1979). A methodology for the selection of interactive computer services. NBS Special Publication 500-544, National Bureau of Standards, Washington, D. C.

McDonald, G. C. (1979). Nonparametric selection procedures applied to state traffic fatality rates. *Technometrics*, 21, 515-523. Corrigendum (1980), 22, 285.

Soller, M. and Putter, J. (1964). On the probability that the best chicken stock will come out best in a single random sample test. *Poultry Science*, 43, 1425-1427.

Soller, M. and Putter, J. (1965). Probability of correct selection of sires having highest transmitting ability. *Journal of Dairy Science*, 48, 747-748.

Wilcox, R. R. (1979). Applying ranking and selection techniques to determine the length of a mastery test. *Educational and Psychological Measurement*, 39, 13-22.

Wilcox, R. R. (1981). Selecting the t best of k examinees whose true score is better than a standard. *Educational and Psychological Measurement*. To appear.

3. BOOKS

Buringer, H., Martin, H. and Schriever, K.-H. (1980). *Nonparametric Sequential Selection Procedures*, Birkhauser, Boston.

Dudewicz, E. J. and Koo, J. O. (1982). *The Complete Categorized Guide to Statistical Selection and Ranking Procedures*. Series in Mathematical and Management Sciences, Vol. 6, American Sciences Press, Columbus, Ohio.

Gibbons, J. D., Olkin, I. and Sobel, M. (1977). *Selecting and Ordering Populations: A New Statistical Methodology*, John Wiley, New York.

Gupta, S. S. and Huang, D.-Y. (1981). *Multiple Decision Theory: Recent Developments*. Lecture Notes in Statistics, Vol. 6, Springer-Verlag, New York.

Gupta, S. S. and Panchapakesan, S. (1979) . *Multiple Decision Procedures: Theory and Methodology of Selecting and Ranking Populations*, John Wiley, New York.

Kleijnan, J. P. C. (1976). *Statistical Techniques in Simulation*, Vol. 2, Marcel Dekker, New York.

4. COMPUTER PACKAGES

Edwards, H. P. (1984b). RANKSEL - An interactive computer package of ranking and selection procedures.] *The Frontiers of Modern Statistical Inference Procedures* (E. J. Dudewicz, ed.), Vol. 10, Series in Mathematical and Management Sciences, American Sciences Press, Columbus, Ohio, to appear.

Gupta, S. S. and Hsu, J. C. (1984a). A computer package for ranking, selection, and multiple comparisons with best. *Proceedings of the 1984 Winter Simulation Conference* (S. Sheppard, U. Pooch and D. Pegden, eds.), North-Holland Publishing Company, 251-257.

Gupta, S. S. and Hsu, J. C. (1984b). *User's Guide to RS-MCB: A Computer Program for Ranking, Selection and Multiple Comparison with the Best*, Version X1. Correspondence to be addressed to Professor Jason C. Hsu, Department of Statistics, The Ohio State University, Columbus, Ohio 43210.

5. PROCEEDINGS of CONFERENCES

Dudewicz, E. J.. *The Frontiers of Modern Statistical Inference Procedures*. Proceedings of the Conference on Inference Procedures Associated with Statistical Ranking and Selection held in Honolulu, 1982. To appear as Vol. 10 in American Science Press Series in Mathematical and Management Sciences.

Gupta, S. S. and Berger, J. O. (1982). *Statistical Decision Theory and Related Topics-III*, Vols 1 and 2, Academic Press, New York.

Gupta, S. S. and Moore, D. S. (1977). *Statistical Decision Theory and Related Topics-II*, Academic Press, New York.

Gupta, S. S. and Yackel, J. (1971). *Statistical Decision Theory and Related Topics*, Academic Press, New York.

Santner, T. J. and Tamhane, A. C. (1984). *Design of Experiments: Ranking and Selection*, Marcel Dekker, New York.

6. BIBLIOGRAPHY of TWO-STAGE PROCEDURES and RELATED TOPICS

Alam, K. (1970). A two-sample procedure for selecting the population with the largest mean from k normal populations. *Ann. Inst. Statist. Math.* 22, 127-136.

Bechhofer, R. E. (1974). A two-sample procedure for selecting the populations with the largest mean from several normal populations with unknown variances: some comments on Ofosu's paper. Tech. Report No. 233, Dept. of Operations Res., Cornell Univ., Ithaca, New York.

Bechhofer, R. E., Dunnett, C. W., and Sobel, M. (1953). A two-sample sample multiple decision procedure for ranking means of normal populations with unknown variances (preliminary report). *Abstract. Ann. Math. Statist.* 24, 136.

Bechhofer, R. E., Dunnett, C. W., and Sobel, M. (1954). A two-sample multiple decision procedure for ranking means of normal populations with a common unknown variances. *Biometrika* 41, 170-176.

Bofinger, E. (1979). Two stage selection problem for normal populations with unequal variances. *Aust. J. Statist.* 21, 149-156.

Chen, H. J. and Dudewicz, E. J. (1976). Procedures for fixed-width interval estimation of the largest normal mean. *J. Amer. Statist. Assoc.* 71, 752-756.

Chiu, W. K. (1974). Selecting the m populations with the largest means from k normal populations with unknown variances. *Austral. J. Statist.* 16, 144-147. Corrigendrum: *Austral. J. Statist.* 17(1975) ,114.

Cohen, D. S. (1959). A Two-sample Decision Procedure for Ranking Means of normal Populations with a Common Known Variance. M.S. Thesis, Dept. of Operations Research, Cornell Univ., Ithaca, New York.

Dudewicz, E. J. and Dalal, S. R. (1975). Allocation of observations in ranking and selection with unequal variances. *Sankhyā Ser. B* 37, 28-78.

Gupta, S. S. and Kim, W. C. (1984). A two-stage eliminations type procedure for selecting the largest of several normal means with a common unknown variance. Design of Experiments: Ranking and Selection (T. J. Santner and A. C. Tamhane, eds.) , Dekker, New York, 77-94.

Gupta, S. S. and Miescke, K. J. (1982a). On the least favorable configurations in certain two-stage selection procedures. Statistics and Probability: Essays in Honor of C. R. Rao (G. Kallianpur *et. al.*, eds.), Amsterdam-New York-Oxford, North-Holland, 295-305.

Gupta, S. S. and Miescke, K. J. (1982b). On the problem of finding a best population with respect to a control in two stages. Statistical Decision Theory and Related Topics III (S. S. Gupta and J. O. Berger, eds.), Vol. 1, Academic Press, New York, 273-295.

Gupta, S. S. and Miescke, K. J. (1983). An essentially complete class of two-stage procedures with screening at the first stage. *Statist. and Decisions* 1(4/5), 427-440.

Gupta, S. S. and Miescke, K.-J. (1984). On two-stage Bayes selection procedures. *Sankhyā Series B*, 46, 123-134.

Hoel, D. G., Sobel, M., and Weiss, G. H. (1972). A two-stage procedure for choosing the better of two binomial populations. *Biometrika* 59, 317-322.

Lam, K., and Chiu, W. K. (1976). On the probability of correctly selecting the best of several normal populations. *Biometrika* 63, 410-411.

Lee, S.-H. and Kim, W.-C. (1985). An elimination type two-stage selection procedure for exponential distributions. Accepted for Publication in *Communications in Statistics - Theory and Method*, 14.

Maurice, R. J. (1958). Ranking means of two normal populations with unknown variances. *Biome-*

trika 45, 250-252.

Miescke, K. J. (1980). On two-stage procedures for finding a population better than a control. Technical Report No. 80-28, Dept. of Statistics, Purdue University, W. Lafayette, IN.

Miescke, K. J. (1984). Two-stage selection procedures based on tests. *Design of Experiments: Ranking and Selection* (T. J. Santer and A. C. Tamhane, eds.), Dekker, New York, 165-178.

Mukhopadhyay, N. (1979). Some comments on two-stage selection procedures. *Commun. Statist. A9*, 1609-1617.

Mukhopadhyay, N. (1980). Stein's two-stage procedure and exact consistency. *Abstract, Bull. Inst. Math. Statist.* 9, 206.

Mukhopadhyay, N. (1981). Theoretical investigations on some sequential and two-stage procedures to select the larger mean. Tech. Rep. No. 22, Dept. of Statist., Oklahoma State University , Stillwater, OK.

Mukhopadhyay, N. and Chou, W. S. (1984). On selecting the best component of a multivariate normal population. *Sequential Analysis Vol.* 3(1), 1-22.

Mukhopadhyay, N. and Hamdy, H.I. (1984). Two-Stage Procedures for Selecting the Best Exponential Population When the Scale Parameters are unknown and unequal. *Sequential Analysis Vol.* 3(1), 51-74.

Ofosu, J. B. (1973). A two-sample procedure for selecting the population with the largest mean for several normal populations with unknown variances. *Biometrika* 60, 117-124. Correction *Biometrika* 62 (1975), 221.

Ofosu, J. B. (1975). A two-stage minimax procedure for selecting the normal population with the smallest variance. *J. Amer. Statist. Assoc.* 70, 171-174.

Rinnot, Y. (1978). On two-stage procedures and related probability inequalities. *Commun. Statist. A8*, 799-811.

Ruben, H. (1961). Studentization of two-stage sample means from normal populations with unknown common variance. *Sankhyā Ser. A* 23, 231-250.

Santner, T. J. (1976). A two-stage procedure for selecting optimal means in the normal model. *Commun. Statist. A5*, 283- 292.

Somerville, P. N. (1974). On allocation of resources in a two-stage selection procedure. *Sankhyā Ser. B* 36, 194-203.

Stein, C. (1945). A two-sample test for a linear hypothesis whose power is independent of the variance. *Ann. Math. Statist.* 16, 243-258.

Tamhane, A. C. (1975). A minimax two-stage elimination type procedure for selecting the smallest normal variance. Tech. Report No. 260, Dept. of Operations Res., Cornell University, Ithaca, New York.

Tamhane, A. C. and Bechhofer, R. E. (1977). A two-stage minimax procedure with screening for selecting the largest normal mean. *Commun. Statist. A6*, 1003-1033.

Tamhane, A. C. and Bechhofer, R. E. (1979). A two-stage minimax procedure with screening for selecting the largest normal mean (II): an improved PCS lower bound and associated tables. *Commun. Statist. A8*, 337-358.

Tong, Y. L. (1979). Multi-stage interval estimation of the largest mean of k normal populations. *J. Roy. Statist. Soc. Ser. B* 32, 272-277.

Tong, Y. L. and Wetzell, D. E. (1979). On the behavior of the probability function for selecting the best normal population. *Biometrika* 66, 174-176.

Books

Buringer, H., Martin, H. and Schriever, K.-H. (1980). Nonparametric Sequential Selection Procedures. Birkhauser, Boston-Basel-Stuttgart. See Part 1, Chapter 5.

Gibbons, J. D., Olkin, I., and Sobel, M. (1977). Selecting and Ordering Populations. Wiley, New York. See Chapter 3.

Gupta, S. S. and Panchapakesan, S. (1979). Multiple Decision Procedures. John Wiley, New York. See Chapter 2 and 12.