Rotation can be done using Varimax, Promax, Procrustes, and Rotoplot techniques, followed by the calculation of factor plots and factor scores. The Rotoplot implementation is a unique computerized version of Cattell's graphic rotation procedure (see Cattell & Khanna, 1977).

(5) Other multivariate Stat 1 options include the "parallel analysis" for groups of subgroups within a single data set, and APL-based Matrix Algebra within the Equations subprogram.

Limitations and Availability:

Stat 1 runs on all IBM-PC and compatible computers with two floppy disk drives (one floppy and one fixed disk) and 256K memory. Stat 1 offers 64-bit precision with or without a numerical coprocessor (i.e., 8087). The program is entirely menu-driven, utilizes the function keys, and includes a 200-page manual (Brennan & Nitz, 1986).

Stat 1 can be purchased in three configurations: (I) The "Professional Version" costs $129.95 and allows all of the features of STAT 1 on one floppy disk; (II) The "Lab Package" costs $500 and includes a full multi-site license for Stat 1; (III) The "Student Package" costs $29.95 and is identical to the Professional version but it is limited to N=100 cases. All inquiries about Stat 1 should be addressed to the authors.

References


original and transformed data is computed to detect variables which are "nearly" normal. After the univariate estimates for $\lambda_1$ are obtained, the GS algorithm uses those values and searches other alternative $\lambda_1$'s until no further improvement of the AIC is achieved.

If the user selects the QN algorithm, then one may enter the optimal univariate $\lambda$ vector as input, or, alternatively, provide arbitrary values. The "best" $\lambda$ vector is found by the QN method, and the minimum AIC is given along with $\Delta$AIC between the original and the transformed data, to test the significance of multivariate normality of the transformed data. The transformed data from MTRANS can be assessed for multivariate normality by measures of skewness and kurtosis, using UTRANS.

Limitations and Availability

Both UTRANS and MTRANS have been written in ANSI FORTRAN 77, and both require IMSL subroutines. The programs have been used successfully by the authors on a Prime 550/75/9955 computer at the University of Virginia. A copy of these programs (with a sample run for each) is available from either of the authors on an IBM compatible floppy diskette, on an as-is basis, for $50.

References


Like many psychologists with training in psychometrics, I teach behavioral statistics courses to undergraduate and graduate students. A key aspect of the courses is the training students receive in the operation of the traditional mainframe statistics packages, such as SPSS-X and BMDP.

Another significant block of time is devoted to consulting with faculty and students about their statistical problems. Often, I "prescribe" certain procedures and direct the colleague to the SPSS or BMDP handbooks to fend for themselves.

I'm not particularly fond of mainframe oriented packages, though I've used them with grudging admiration. Students and colleagues have often found them difficult to use. At times, in frustration, I found myself wondering why the command structure of these packages seemed so intricate, and the documentation so cryptic.

Part of the answer stems from their evolution during the era of batch mode processing on mainframe computers. As a consequence, they fail to take significant advantage of the faster user-interface capabilities inherent in the microcomputer environment. I suspect that the intricacy of the command structure also stems from the fact that the programs were developed over a lengthy period, by a number of different programmers.

With arrival of the new generation of IBM microcomputers, and the concurrent development of the Apple Macintosh into a serious scientific and business computer, this deficiency is becoming increasingly difficult to accept. Indeed, the major selling point (so far at least) of the microcomputer adaptations of SPSS and BMDP seems to be that the mainframe version, tried, true, and essentially intact, has been ported successfully to the micro. The development is due more to the evolution of FORTRAN compiler quality and microcomputer storage...