Missing Data

Ordinarily, Factor Analysis and other multivariate procedures delete all cases having missing values on any variable selected for analysis. This is listwise deletion. For data with many missing values, you may end up with too few complete cases for analysis. Select Pairwise deletion if you want covariances or correlations computed separately for each pair of variables selected for analysis. Pairwise deletion takes more time than the standard listwise deletion because all possible pairs of variances and covariances are computed. The same option is offered for Correlations, should you decide to create a symmetric matrix for use in factor analysis that way. Also notice that Correlation provides an EM algorithm for estimating correlation or covariance matrices when data are missing.

SYSTAT 10 Manual, Statistics I, Chapter 12, Page I-362.

Deletion Methods

The two most common deletion methods are listwise and pairwise deletion. In listwise deletion, the analysis uses complete cases only. That is, the procedure removes from computations any observation with a value missing on any variable included in the analysis.

Pairwise deletion is listwise deletion done separately for every pair of selected variables. In other words, counts, sums of squares, and sums of cross-products are computed separately for every pair of variables in the file. With pairwise deletion, you get the same correlation (covariance, etc.) for two variables containing missing data if you select them alone or with other variables containing missing data. With listwise deletion, correlations under these two circumstances may differ, depending on the pattern of missing data among the other variables in the file.

Because it makes better use of the data than listwise deletion, pairwise deletion is a popular method for computing correlations on matrices with missing data. Many regression programs include it as a standard method for computing regression estimates from a covariance or correlation matrix.

SYSTAT 10 Manual, Statistics II, Chapter 1, Page II-3.

EXHIBIT
"A"
tabbies