

Bartlett's Test of Sphericity

In matrix algebra, the determinate of an identity matrix is equal to 1.0.

The procedure calculates the determinate of the matrix of the sums of products and cross-products (S) from which an intercorrelation matrix is derived.

The determinant of the matrix S is converted to a chi-square statistic and tested for significance.

The null hypothesis is that the intercorrelation matrix comes from a population in which the variables are noncollinear (i.e. an identity matrix) and that the non-zero correlations in the sample matrix are due to sampling error.

Statistical Decision: if the sample intercorrelation matrix did not come from a population in which the intercorrelation matrix is an identity matrix the probability of the chi-square value will be small.