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An Exploratory Canonical Analysis Approach for Multinomial Populations Based on the ϕ-divergence Measure

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Abstract: In this paper we consider an exploratory canonical analysis approach for multinomial population based on the ϕ-divergence measure. We define the restricted minimum ϕ-divergence estimator, which is seen to be a generalization of the restricted maximum likelihood estimator. This estimator is then used in ϕ-divergence goodness-of-fit statistics which is the basis of two new families of statistics for solving the problem of selecting the number of significant correlations as well as the appropriateness of the model.

Keywords: canonical analysis; restricted minimum ϕ-divergence estimator; minimum ϕ-divergence statistic; simulation; power divergence;

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