

Testing Marginal Homogeneity against Stochastically Ordered Marginals for $r \times r$ Contingency Tables

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Abstract: A square contingency table often appears in social, biomedical and behavioral science to be used to display joint responses when two variables have the same category levels. When responses are ordered categories, it is usually important to test the hypotheses of marginal homogeneity against stochastically ordered marginals. In this paper, a test statistic based on the Kullback-Leibler divergence is proposed. An algorithm for computing the Kullback-leibler measure of discrepancy is provided. The related asymptotic distribution under marginal homogeneity is the Chi-bar square distribution.