



A Permutation Test for the Two Sample Design in Case of Clustered Data

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In this work we propose a new two-sample test for clustered data. In order to test the null hypothesis of equality in distribution of the two underlying populations against an alternative of stochastic dominance, we extend the nonparametric combination-based permutation testing to such kind of data. The solution is valid both for continuous and for ordered categorical responses and the proposed method is investigated and validated by a suitable simulation study. A real case study in the field of toxicology is finally presented.

Keywords: nonparametric combination; nonparametric inference; permutation tests.