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*Measuring and Testing the Intraclass Dependence for Non-normally Distributed Clustered Data*

We are interested in measuring the intraclass dependence for non-normal clustered data. We first propose a generalization of the one way random effect ANOVA model valid for the larger family of elliptical distributions. Under this model, we give the asymptotic properties of the moment estimator of the intraclass correlation coefficient. Then we propose an estimator of Kendall's tau adapted to exchangeable data. Under a copula model, we derive its asymptotic distribution and give an estimator for its variance. We also give an alternative estimator of the intraclass correlation coefficient for the class of elliptical distributions and derive its asymptotic properties.