

# Testing the normality of the latent variables in the polychoric correlation model

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## Abstract

This paper develops a specification of the model defining the polychoric correlations, where the manifest ordinal variables are assumedly generated as a discretization of latent continuous ones. Taking advantage of the fact that in this model, the marginal distributions of the latent variables are not identified, we use the tool of the copula concept; some identification issues are analysed. In the second part, we develop a Bayesian encompassing specification test for testing the Gaussianity of the underlying copula and consider the discretization model as a case of partial observability.

*Keywords:* Bayesian encompassing, partial observability, nonparametric specification test, discretization model, Dirichlet priors, polychoric correlations, ordinal variables.