

# Comment on “Model based clustering for social networks”

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October 6, 2006

I congratulate the authors for this very stimulating paper. I’d like to contribute some thoughts about the model assumptions.

1. The authors discuss the transitivity imposed by their model, particularly by the triangle inequality which is assumed to hold in the latent social space, but they don’t explain how to check this model assumption. One possibility could be to apply parametric bootstrap, i.e., to simulate new data sets from the fitted model and to compare the bootstrap distribution of the number of ties in triads to its observed value.
2. It could be useful in some situations to allow more general covariance matrices within clusters. This enables, for example, elongated clusters, which have the reasonable social interpretation of modelling a group as spreading between two extreme points, which is not captured by spherical clusters.
3. it could be useful to include the so-called “noise component” as mentioned in Fraley and Raftery (1998) in the cluster model, because persons not belonging to any cluster may be found in many social networks.