

Estimation of Structural Equation Models with Latent Variable Pattern Mixture Model via Stochastic EM Algorithm

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The maximum likelihood estimation method using the stochastic EM algorithm was developed for structural equation models (SEM) with latent variable pattern mixture model. Latent variable pattern mixture model is an extension of pattern mixture models with measurement errors and theoretical constructs considered. The patterns of missing were assumed to reflect latent classes rather than categories of manifest variables. Each latent class was allowed to have distinct structur-

al equation model. The results of this simulation study indicated that the proposed estimation method via stochastic EM algorithm performed well compared to other missing data treatment methods and yielded satisfactory parameter estimates.

Keywords: *nonignorable missingness, pattern mixture model, structural equation models, maximum likelihood method, latent variable*

