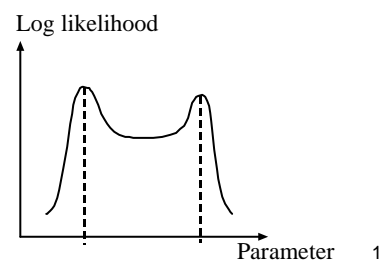
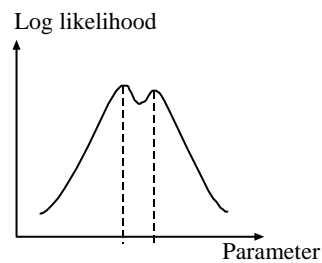
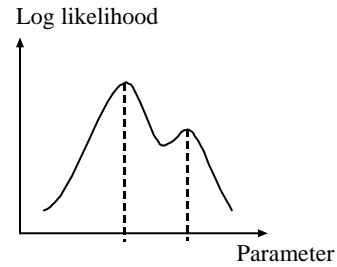
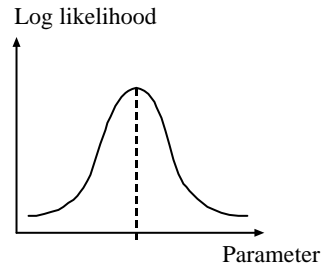


Global And Local Solutions



1

Random Starts

When TYPE=MIXTURE is used, random sets of starting values are generated as the default for all parameters in the model except variances and covariances. These random sets of starting values are random perturbations of either user-specified starting values or default starting values produced by the program. Maximum likelihood optimization is done in two stages. In the initial stage, 10 random sets of starting values are generated. An optimization is carried out for ten iterations using each of the 10 random sets of starting values. The ending values from the optimization with the highest loglikelihood are used as the starting values in the final stage optimization which is carried out using the default optimization settings for TYPE=MIXTURE. Random starts can be turned off or done more thoroughly.

Recommendations for a more thorough investigation of multiple solutions when there are more than two classes:

STARTS = 50 5;

or with many classes

STARTS = 500 10; STITERATIONS = 20;

2

Loglikelihood Values At Local Maxima

Results from the final stage iterations for ASB example

Good Loglikelihood Behavior: 4-Class LCA			Poor Loglikelihood Behavior: 5-Class LCA		
<i>Loglikelihood</i>	<i>Seed</i>	<i>Initial stage start numbers</i>	<i>Loglikelihood</i>	<i>Seed</i>	<i>Initial stage start numbers</i>
-41007.498	462953	7	-40808.314	195353	225
-41007.498	608496	4	-40808.406	783165	170
-41007.498	415931	10	-40808.406	863691	481
-41007.498	285380	1	-40815.960	939709	112
-41007.498	93468	3	-40815.960	303634	169
-41007.498	195873	6	-40815.960	85734	411
-41007.498	127215	9	-40815.960	316165	299
-41007.498	253358	2	-40815.960	458181	189
-41010.867	939021	8	-40815.960	502532	445
-41023.043	903420	5	-40816.006	605161	409

- OPTSEED option
- Default STARTS = 10 1 is sufficient for 1-4 classes and 6 classes, but not for 5 classes

3

Further Readings On Latent Class Analysis

- Clogg, C.C. (1995). Latent class models. In G. Arminger, C.C. Clogg & M.E. Sobel (eds.), Handbook of statistical modeling for the social and behavioral sciences (pp. 311-359). New York: Plenum Press.
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- Nestadt, G., Hanfelt, J., Liang, K.Y., Lamacz, M., Wolyniec, P., & Pulver, A.E. (1994). An evaluation of the structure of schizophrenia spectrum personality disorders. Journal of Personality Disorders, 8, 288-298.
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