Longitudinal Structural Equation Modeling by Todd D. Little
Chapter 12 Reading Questions

1. In finite mixture modeling, participants are grouped based on the similarity of their responses to the indicators and the parameters. What are these response groups called?
   A. Clusters
   B. Profiles
   C. Sets
   D. Cohorts

2. Finite mixture modeling analyses attempt to explore response-pattern profiles that exist within a sample from what kind of population?
   A. Heterogeneous
   B. Finite
   C. Homogeneous
   D. Random

3. What is the overarching question for finite mixture models?
   A. What is the pattern of shape of change exhibited by individuals over time?
   B. Do the relationships between predictor variables and the outcome variable differ over time?
   C. What are the subgroups of persons who share a similar response pattern, yet are distinct from the responses of persons in other classes/profiles?
   D. Do changes in one variable at an earlier time point predict changes in another arable at a later time point, or vice versa?

4. The primary difference between latent class analysis (LCA) and latent profile analysis (LPA) is that ____ indicators are used in LCA and continuous indicators are used in LPA.
   A. Continuous; Categorical
   B. Ordinal; Interval
   C. Categorical; Continuous
   D. Interval; Binary

5. Latent class/profile constructs are built upon parameter estimates (means, variances, covariances) from what type of model?
   A. Hierarchical linear model
   B. Random co-efficient model
   C. Crossed-lagged panel model
   D. Latent growth curve model

6. Individuals within the same latent class have homogeneous response pattern but are heterogenous to the response patterns of individuals from other latent classes. This heterogeneity is referred to as ____.

A. Group disparities
B. Class separation
C. Intergroup differences
D. Group contrast

7. What does it mean if the finite mixture model converges on the local maxima?
   A. The estimation process has found the best-fitting solution that expands to the global maximum.
   B. The model will likely not converge on the global maximum solution.
   C. The estimation process has not found the best possible solution at the global maximum.
   D. Finite mixture models won't converge on the local maxima.

8. What model fit indices are not included for finite mixture models?
   A. Chi-square statistic
   B. Bayesian information criteria (BIC)
   C. Akaike's information criterion (AIC)
   D. Relative improvement (RI)

9. A well-fitting finite mixture model guarantees high classification quality.
   A. True
   B. False

10. When should covariates be added to the finite mixture model?
    A. During the enumeration process
    B. Before the enumeration process
    C. Covariates are not recommended in finite mixture modeling
    D. After the classes have been enumerated