# About the LTA Teachers’ Corner

**Note: Latent transition analysis (LTA) is a longitudinal extension of latent class analysis (LCA). Before attempting to learn LTA, it is important to understand LCA. Furthermore, although these materials discuss the basic LCA model, this model is described much more completely in the LCA Teachers’ Corner.**

(1) Introductory articles about LTA have been provided for instructors. The articles were chosen to give instructors enough background so that they may guide students to identify types of research questions addressable using LTA and to determine whether data are suitable for use with LTA. For some courses, instructors may choose to distribute these articles to students for review prior to the discussion.

* Lanza, S. T., Patrick, M. E., & Maggs, J. L. (2010). Latent transition analysis: Benefits of a latent variable approach to modeling transitions in substance use. *Journal of drug issues, 40*(1), 93-120.
* Lanza, S. T., Bray, B. C., & Collins, L. M. (2013). An introduction to latent class and latent transition analysis. In J. A. Schinka, W. F. Velicer, & I. B. Weiner (Eds.), Handbook of psychology (2nd ed.,Vol. 2, pp. 691-716). Hoboken, NJ: Wiley.

(2) A more comprehensive recommended reading list for LCA and LTA has been provided.

(3) A PowerPoint slideshow that provides a basis for an introductory lecture has been provided.

(4) A sample SAS exercise has been provided that includes materials for instructors to give to students and a set of solutions that instructors can use to evaluate the exercise. Several files are required for the exercise and are explained below:

* LTA Teachers’ Corner Exercise in SAS.docx = A Microsoft Word file that describes the exercise to the instructor and students. Note that to complete the exercise, the instructor and students will need to have installed SAS and PROC LCA/PROC LTA from <https://methodology.psu.edu/downloads/proclcalta>.
* LTA-TC-Exercise-FOR-STUDENTS.sas = A SAS file to be distributed by the instructor to the students that contains the required data and example code to complete the exercise.
* LTA-TC-Exercise-FOR-INSTRUCTORS.sas = A SAS file with the syntax needed to generate the solutions to the exercise.
* LTA-TC-Exercise-FOR-INSTRUCTORS.docx = A Microsoft Word file for the instructor that includes annotated SAS output providing the solutions to the exercise.

NOTE: The exercise can also be run in Mplus, and we have provided the following resources for Mplus users.

* LTA Teachers’ Corner Exercise in Mplus.docx = A Microsoft Word file that describes the exercise. Note that you must have Mplus installed on your machine.
* LTA-TC-Exercise-Mplus-Data.txt = The data file for the Mplus version of the exercise.
* LTA-TC-Exercise-Mplus-FOR-STUDENTS.inp = Sample code for the Mplus version of the exercise.
* LTA-TC-Exercise-Mplus-FOR-INSTRUCTORS.out = The Mplus output for the sample code provided for the Mplus version of the exercise.