Data are provided in the file LCA-TC-Exercise-FOR-STUDENTS.sas. The variables are listed in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| LIFETIME | Frequency of marijuana use over participant’s lifetime  1 = use  2 = no use | POL\_BLF1 | Political beliefs (conservative)  0 = not conservative  1 = conservative  ((0,0) is liberal) |
| PREV\_YR | Frequency of marijuana use over the previous year  1 = use  2 = no use | POL\_BLF2 | Political beliefs (moderate)  0 = not moderate  1 = moderate  ((0,0) is liberal) |
| PREV\_MO | Frequency of marijuana use over the previous month  1 = use  2 = no use | RLG\_IMP1 | Importance of religious beliefs (not important)  0 = important to some degree  1 = not important  ((0,0) is very important) |
| NEXT\_MO | How likely it is that the participant will use marijuana in the next year  1 = will use  2 = will not use | RLG\_IMP2 | Importance of religious beliefs (important)  0 = not important or very important  1 = important  ((0,0) is very important) |
| APRV\_TRY | Does participant disapprove of people trying marijuana one or twice  1 = do not disapprove  2 = disapprove | SKP\_CLS | Number of skipped classes  (0-25) |
| APRV\_OCC | Does participant disapprove of people smoking marijuana occasionally  1 = do not disapprove  2 = disapprove | GRADE | Grades (on average, percent)  (60-100) |
| APRV\_REG | Does participant disapprove of people smoking marijuana regularly  1 = do not disapprove  2 = disapprove | GOOUT | Number of evenings out per week on average (0-7) |
| SEX | Gender  0 = male  1 = female | YEAR | Survey year  1 = 1999  2 = 2000  3 = 2001 |
| RACE | Race/Ethnicity  0 = white  1 = non-white |  |  |

Exercise:

1. Using PROC LCA in SAS and the data provided, fit a 4-class latent class model for marijuana use and attitudes using 7 indicators of the latent class variable. Use 4893 as the random seed. Interpret all parameters in the model.
2. (Optional) Plot the item-response probabilities using the SAS macro LcaGraphicsV1.sas. (The macro has a users’ guide that describes its use.

Instructor solutions for the programming are provided in the file LCA-TC-Exercise-FOR-INSTRUCTORS.sas and for the parameter interpretation in the file LCA-TC-Exercise-FOR-INSTRUCTORS.docx.