

February 20, 2010, Bengt Muthen

This document provides some explanations of the Mplus scripts for the paper:

Muthen, Asparouhov, Hunter & Leuchter (2010). Growth modeling with non-ignorable dropout: Alternative analyses of the STAR*D antidepressant trial.

The STAR*D data set is not posted. Access needs to be applied for from the originators of the data.

Run 2. This uses DATA MISSING to create a data set 'yu.dat' with the outcomes y and the corresponding binary missing data indicators u.

Run 3. This uses the yu.dat data to create dropout dummy variables d in DEFINE and do a conventional pattern-mixture analysis.

Run 4. This does the same analysis as in Run 3, but using the Mplus Version 6 DATA MISSING option TYPE = DDROPOUT to create dummy variables for dropout occasion. This avoids doing Run 2 and instead starts from raw data.

Run 5 and 6 do Roy latent dropout analysis with 4 classes. Run 5 uses the Mplus Version 5 approach and Run 6 uses the Mplus Version 6 approach.

Run 7 and 8 do Diggle-Kenward selection modeling. Run 7 uses the Mplus Version 5 approach of creating survival dropout indicators from yu.dat using DEFINE. Run 8 uses the Mplus Version 6 DATA MISSING option TYPE = SDROPOUT to create survival indicators for dropout occasion from raw data.

Run 11 uses the Mplus Version 6 approach to Diggle-Kenward mixture analysis. The analysis can also be done in Version 5 using DEFINE in line with Run 7. Diggle-Kenward mixture analysis is computationally difficult and a 2-step procedure is used here, where only the second step is shown. The first step runs a 4-class MAR growth model. The estimates of that model are used as starting values for the second step, where starting values are entered using the Mplus Version 6 SVALUES option in the OUTPUT command.

Run 13 uses the Mplus Version 6 approach to Diggle-Kenward mixture analysis with a distal outcome. The analysis can also be done in Version 5 using DEFINE in line with Run 7. The analysis of Run 13 is also done in two steps in line with Run 11.

Run 14 and Run 15 do Muthen-Roy modeling with a distal outcome. A two-step approach was required. Run 14 shows the first step which gives starting values for the second step using the Mplus Version 6 SVALUES option in the OUTPUT command. Run 15 shows the second step using the Mplus Version 6 approach.