DSCI 610: HW 8 Longitudinal Data Analysis

Total Points: 20

The data set teen\_alcohol has a sample of 82 adolescents on their alcohol use and peer alcohol use. This is a subset of a bigger dataset, taken from the study by Curran, Stice and Chassin (1997). Variable description is as follows.

* id : adolescent id
* age: age in years for adolescents
* coa: children of alcoholics, 0: no, 1: yes
* male: child gender, 0: male, 1: female
* age\_14: age minus 14
* alcuse: alcohol use was assessed using an 8-point scale for 4 items (drank beer or wine, hard liquor, 5 or more drinks in a row, and got drunk). Each item scored on an 8-point scale (0: not at all to 7: every day) for a maximum of 32

alcuse is the square root of the sum of the 4 items

* peer: a measure of peer alcohol use at age 14
* cpper : centered peer
* ccoa : I do not know how they derived this variable (you may ignore it from the analysis)

1. (8 pts) Please refer to Curran, Stice and Chassin (1997) article and reproduce tables similar to Table 1 and 2 from there.

1. (5 pts) For this problem please reproduce Figure 3 or better graphical representation since we have ggplot2 now.
2. (7 pts) Fit an appropriate model for the response variable adolescent alcohol use and interpret the parameters.