

**SAS: Homework 6**  
**Due Thursday April 11, 2019**

1. What did you learn from each figure or set of figures produced in the the computer lab? You can just write (neatly) on the figure or edit it using whatever tools you have at your disposal.

Summarize your findings regarding each of the possible explanatory variables (i.e., MATH, TV, COMPUTER GAMES, type of community, and SCHOOL MEAN MATH).

2. Comment on how well each of the level 1 models fits the schools' data and overall how well these model fit the data.
3. Taking into account all of what you learned from the exploratory analyses, what would be your preliminary HLM? You can report more than one if you feel that it's justified.
4. Did your exploratory analyses confirm (or not) what you already knew about the data from fitting models to it? Would you do anything different in terms of modeling the data given the exploratory analysis? Did looking at the data explain any strange results from previous modeling of the data? Explain
5. Do the distributions of the  $U_j$ s look OK? What does this tell you about the normality assumption for them?
6. Based on residuals and influence diagnostics, do you have any concerns about your "final" model? If so what. (give the graphics with residuals and influence diagnostics that you base your answer on).