**Mplus Workshop 1: Introduction to Mplus and Basic Univariate Analyses**

* Introduction to Mplus
  + Used to model various continuous and categorical observed and latent variables
  + Types of analyses
    - Linear regression – moderation and mediation
    - Logistic regression
    - Poisson regression
    - Path analysis
    - Exploratory/confirmatory factor analysis
    - Structural equation modeling
    - Latent class analysis
    - Growth modeling
    - Multilevel – hierarchical modeling
    - Time survival analysis
    - Monte Carlo studies
  + Programming rules
    - There are 10 programming commands:
      * Title – Identifies analysis
      * Data – Identifies location and name of data file for analysis
      * Variable – Names and describes the variables to be analyzed
      * Define – Transforms existing variables and creates new variables
      * Analysis – Describes the analysis to be performed
      * Model – Describes the model to be estimated
      * Output – Specifies output options
      * Savedata – Saves the data in ASCII files (.csv or .dat)
      * Plot – Provides graphical displays of data and results
      * Montecarlo – Defines parameters for simulation studies
* Clean, code, and format data in another package such as Excel, SPSS, SAS, or Stata
  + Enter/convert data into a Microsoft Excel file
  + Compare and match to codebook **(Organized codebook is extremely important)**
    - Remove headers (no letters in datafile)
      * Put headers in separate codebook
        + Variable names should not be greater than 8 characters
    - Identify and code missing values (-99 is common code)
    - Then save as a .CSV file format
* Import data into Mplus
  + Syntax will also give you basic univariate statistics
  + Make sure to change any backslashes to forward slashes in the file location
  + Reverse score variables if necessary
  + Create composite scores if necessary and check univariate statistics
  + Check for normality of variables
    - If non-normal, then transform with “Define” command
  + Plot histograms of variables
  + Print out output using GUI
  + Save data from analysis
    - Text-to-columns to modify variables to individual columns in spreadsheet
    - Add new variables to codebook

data:

File is "C:\Users\rrb0005\Desktop\ExFHS.csv";

Variable:

Names are

PID Health Weight Active;

Usevariables

Health Weight;

Missing are all (-99);

Analysis:

Type = general;

Estimator = ML;

Model:

Health ON Weight;

OUTPUT:

sampstat cinterval standardized;