

FITW Procedure for evaluating intervention effect
January 14, 2016

Greetings, Melissa and FITW colleagues - below and ATTACHED is information that I have compiled that may inform the revisions to our evaluation plan for the January 29th submission. Beth - please keep this in your documentation files.

The results of the College Student Inventory (CSI) will be used to determine the cut-score of “forcing variable” to determine placement into either the intervention or control group. The CSI uses a continuous measure based upon a 1-9 stanine scale. The mean score for the CSI is 5; and the standard deviation is 2. (widely used in educational research). National Stanine (NS or Sta9) - A stanine score indicating the status or relative rank of a student's score compared to a nationally representative sample of examinees. Despite some weaknesses, some find that using stanines tends to minimize the apparent importance of minor score fluctuations, and are often helpful in the determination of areas of strength and weakness.

– see link below on stanine scale:

<http://www.mathnstuff.com/math/spoken/here/2class/90/stanine.htm>)

After obtaining the pre- and post-test scores from the CSI we will conduct the following data analyses:

Generate a bivariate scatter plot using the pre-test cut-scores with post-test scores by group.

2. A series of Univariate Analysis of Variance will be run to test “between subject effects,” with Type 1 sum of squares. The dependent variable will be either the pre- or post-test. This will indicate whether the variables are statistically significant. This process will generate parameter estimates for the intercepts of pre- or post-test measures.

3. General linear regression models will be run for which statistically the data file will be “split” and separated by group with post-test scores as the dependent variable.

Note that in conducting the data analyses, possible covariates include TQ scores, Eq-I scores, Interaction effects, raw GPA, etc. There is a body of literature that suggests that the RDD model should include polynomial effects, BUT also literature arguing against including them.

As indicated in our most recent review of the evaluation plan, the Feds are not so much interested in “student development.” Rather their interest is in course credit accumulation, GPA, persistence and retention.

Here is article on adjusting GPA:

<http://repository.cmu.edu/cgi/viewcontent.cgi?article=1042&context=heinzworks>