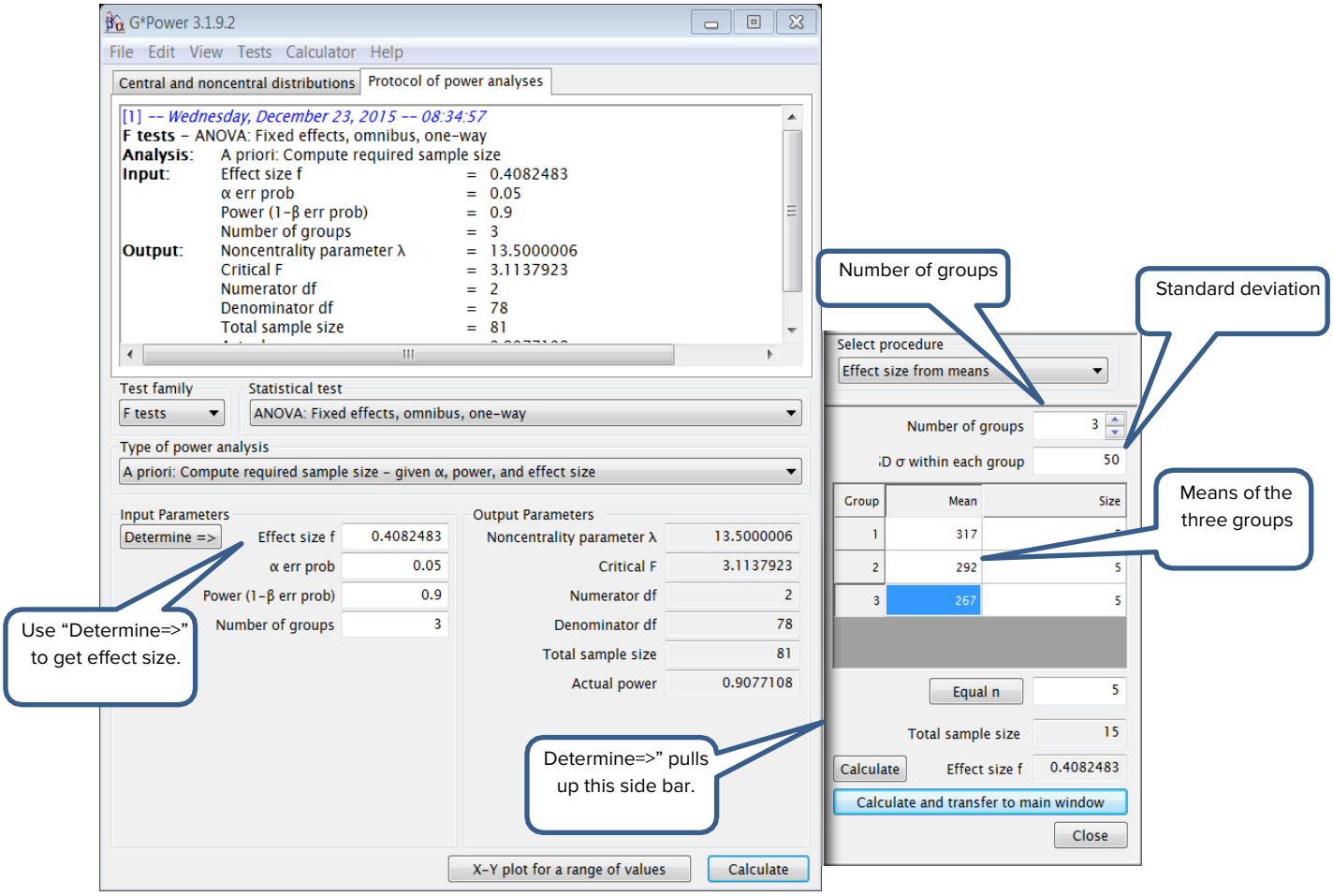
UCDAVIS HEALTH | Clinical and Translational Science Center

One-Way Analysis of Variance

Objective: Compare means between three or more groups of independent samples

A researcher is interested in differences in red cell folate levels of two new ventilation procedures for patients undergoing cardiac bypass surgery in comparison to the standard procedure. The mean and standard deviation for RBC folate for the standard procedure are 317±50. Pilot data suggest that new Procedure 1 could decrease RBC folate levels by about 50 and the other strategy by about 25. Patients will be equally randomized into the 3 groups. Power of 90% with a significance level of 5% is desired for the test.

Required Information	Inputs
What is the desired power for the test?	90%
At what significance level do you want to test your hypothesis?	5%
What is the mean of the control group?	317
How many groups will there be?	3
What differences do you want to be able to detect between the new treatments and the control group?	Procedure 1: 50 Procedure 2: 25
What is the standard deviation of the response variable?	50
What ratios of sample sizes do you expect in the groups?	1:1:1



A total sample size of 81 (27 per group) is needed.

Example using G*Power (available at http://www.gpower.hhu.de/en.html)