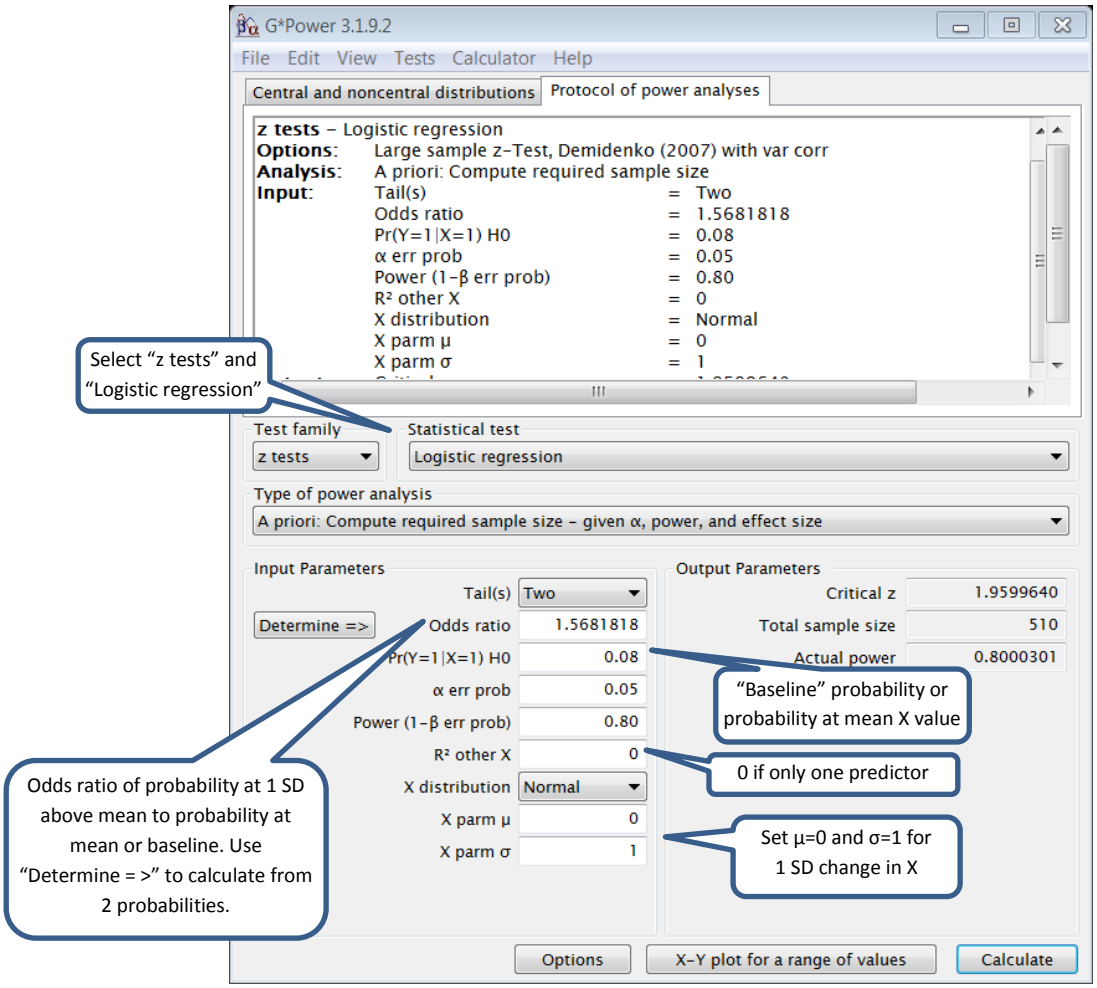
Logistic Regression

Objective: Determine the relationship between the probability of an event and a continuous predictor.

A researcher wants to investigate the relationship between the probability of heart disease and cholesterol level. Previous studies suggest an 8% probability of heart disease for patients with an average cholesterol level (about 5 mmol/l). The investigator wants to be able to detect an increase in the probability of heart disease to at least 12% for patients with cholesterol levels 1 standard deviation above the mean. The investigator wants to detect a difference at least this large with 80% power with a significance level of 5%.

Required Information	**Inputs**
What is the desired power for the test?	80%
At what significance level do you want to test your hypothesis?	5%
What is the "baseline" proportion of successes?	0.08
What proportion of successes do you want to detect for a 1 standard deviation change in the predictor?	0.12
Is your hypothesis one-sided or two-sided?	Two-sided



A total sample of at least 510 is needed.

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