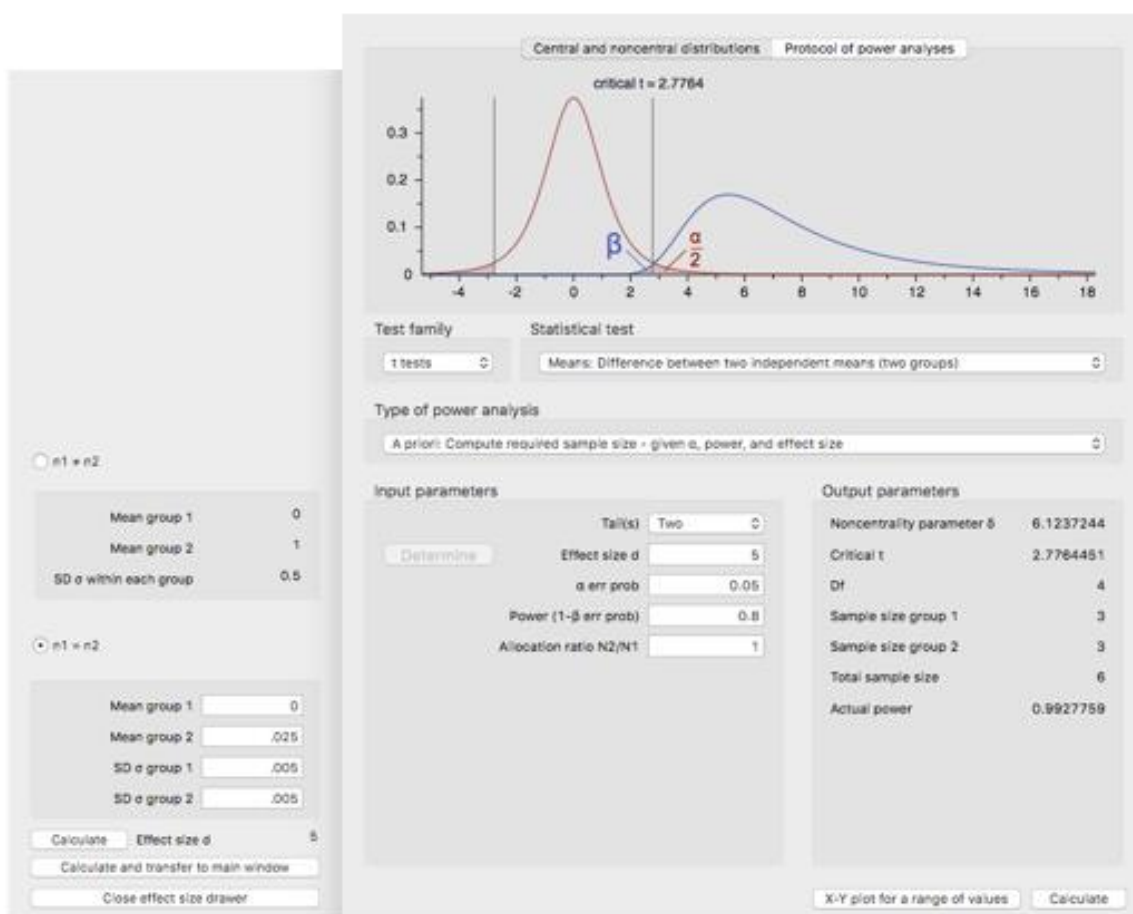**Sample size estimations calculations**

Sample size estimations were computed using G*Power (Faul et al., 2009).

Percentage differences were first computed by calculating 1% and 5% of the mean each microstructural metric.
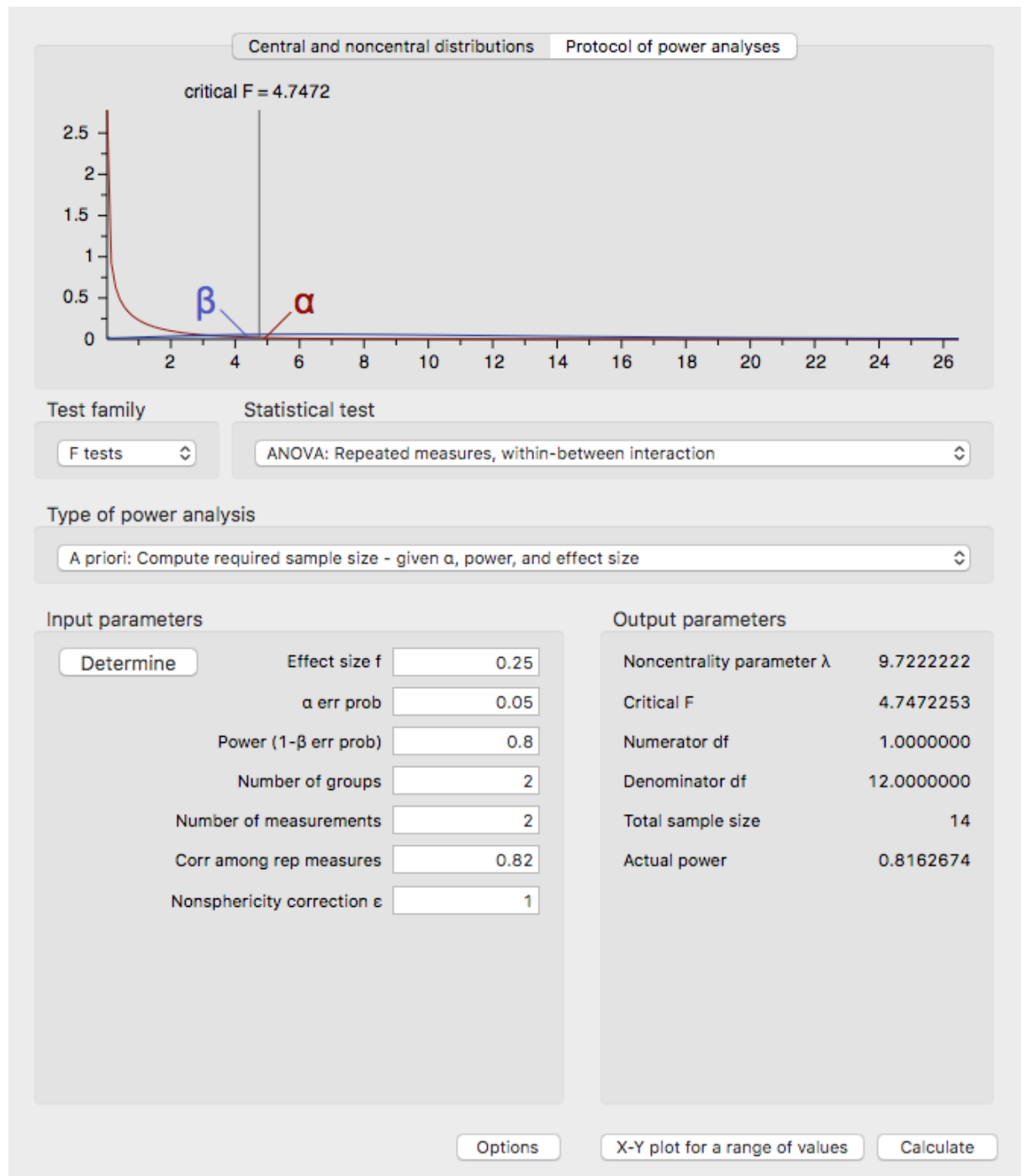
For the independent groups t-test:

The percentage change and standard deviations (assumed equal across two groups) were used as inputs in G*Power as shown below. Significance alpha was set to .05 and Power was set to .8.

For the Group (2) x Time (2) between-within groups ANOVA:

Pearson correlation coefficients were used to account for the correlation among repeated measures for sample size estimation (see Table 2). Tests were computed using small (.1), medium (.25) and large (.4) effect sizes. Significance alpha was set to .05 and Power was set to .8.

Central and noncentral distributions	Protocol of power analyses

critical F = 4.7472

Test family

F tests

Statistical test

ANOVA: Repeated measures, within-between interaction

Type of power analysis

A priori: Compute required sample size - given α, power, and effect size

Input parameters

Determine	Effect size f	0.25
	α err prob	0.05
	Power (1-β err prob)	0.8
	Number of groups	2
	Number of measurements	2
	Corr among rep measures	0.82
	Nonsphericity correction ε	1

Output parameters

Noncentrality parameter λ	9.7222222
Critical F	4.7472253
Numerator df	1.0000000
Denominator df	12.0000000
Total sample size	14
Actual power	0.8162674

Options	X-Y plot for a range of values	Calculate

References:

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods, 41, 1149-1160.