

Post-Live Session Homework: Unit 2

Assignments

On this upload page you will submit unit 2 homework for grading.

1. Conduct a one tailed test of significance (hypothesis test with $\alpha = 0.01$) to test the claim that the intrinsic group has a higher mean creativity score than the extrinsic group. Be sure and show all 6 steps. Use SAS (Elliot and Woodward page 189 and the sample code in the SAS folder on Blackboard) to produce your statistics and conduct your test but don't simply turn in computer output. Write it in the form of the six steps we covered in class and pay close attention to step 6: Writing the conclusion of the test in non-statistical / easy to understand terms. Do you need to divide the p-value in half? Why or why not?

2. Construct the appropriate confidence interval (correct confidence level) for the test in question 1 and report the plausible values of the difference in mean creativity score between the intrinsic and extrinsic groups. Is it consistent with the test conducted in question 1?

3. What assumptions were made in question 1 so that we could use the two sample t test? Use histograms and possibly other statistical tools to check these assumptions.



BONUS (1pts):

Use SAS to conduct a Power analysis (like the one in the Power Analysis Excel spreadsheet online) for the test you conducted in step one. Assume $\alpha = .01$ and find the power for the following assumed difference of means: .5, 1, 1.5, 2, 2.5, 3, 3.5 and 4. Use the sample sizes and the pooled standard deviation (you can get this from proc ttest) and use SAS to make a Power Plot for the power (y axis) versus the assumed mean differences (x axis.) Note also that you will need to use proc power with the "twosamplemeans" option rather than the "onesamplemeans" that we used in class. Use the SAS online help and/or Dr. McGee's video to find an example to help you with the syntax. You may also want to use this link to UCLA SAS help page: http://www.ats.ucla.edu/stat/sas/dae/t_test_power2.htm

To get credit, simply turn in the "Computed Power" table from SAS and include the Power Plot (which can also be created though an option in SAS (check out the UCLA site above.)