Hypothesis Testing: Two Samples

- Two proportions
- Two Means: Independent Samples
- Two Means: Dependent Samples
- Project II

Difference Between Proportions

Are transfer students from community colleges more likely to major in the health sciences than students who go directly to a university from high school? 42 of the 200 community college transfer students surveyed had majors in the health sciences and 50 of the 300 direct students had majors in the health sciences. What can be concluded at the 0.05 level? Also find a 95% confidence interval for this difference.

2-PropZTest, 2-PropZInt

Difference Between Proportions

Are Democrats less likely to own an American car than Republicans? Of the 150 Democrats surveyed, 65 of them owned an American car and of the 120 Republicans surveyed 70 owned an American car. What can be concluded at the 0.05 level? Also find a 95% confidence interval for this difference.

2-PropZTest, 2-PropZInt

Difference Between Means

Is there a difference between the amount of studying for male and female students? The 45 male students in the survey averaged 8 hours of studying per week and had a standard deviation of 3 hours. The 38 female students averaged 8.4 hours per week and had a standard deviation of 2.5 hours. What can be concluded at the 0.1 level of significance? Also find a 90% confidence interval for this difference.

2-SampTTest, 2SampTInt

Difference Between Means

Are tips better on Saturdays compared to Fridays? A waiter looked at 32 tips from Fridays and found the mean to be 18% and the standard deviation 2.5%. For the 35 Saturday tips the mean was 19% and the standard deviation was 3%. What can be concluded at the 0.05 level of significance? Also find a 95% confidence interval for this difference.

2-SampTTest, 2SampTInt

Dependent Samples

A study was done to see if Kirkwood receives more snow on average than Heavenly. The snow amounts in inches received for 8 randomly selected storms was tabulated. What can be concluded at the 0.05 level of significance?

	1	2	3	4	5	6	7	8
Kir	11	6	38	22	16	20	18	9
Hea	10	8	25	14	12	16	24	2

L1 – L2 STO> L3, TTest, TInterval

Dependent Samples

Nine people were tested for memory recall before and after drinking a shot of whisky. The table below shows the number of digits they could recall for this before and after study. Is there evidence at the 0.05 level that memory is reduced after drinking alcohol?

Before	8	9	6	7	10	5	9	7	6
After	7	9	4	3	7	6	4	6	3

L1 − L2 STO> L3, TTest, TInterval

Project 2

1. Find a Partner.
2. Think of an interesting hypothesis (quantitative).
3. Write down H_0 and H_1.
4. Decide on α.
5. Check with Larry.
6. Collect Data.
7. Write Draft.
8. Check with Larry.
9. Write Final Paper.

Project 2

- Requirements: http://www.ltcconline.net/greenl/courses/201/projects/Project2Description.htm

- Video on StatCrunch: http://www.ltcconline.net/greenl/courses/201/projects/project2Video/project2.html