

CS130/230 Lecture 14

StatView Examples

Thursday, March 18, 2004

Problem 1

The following table gives data on the lean body mass (kilograms) and the resting metabolic rate for 12 women and 7 men who are subjects in a study of obesity. The researchers suspect that lean body mass (that is, the subject's weight leaving out all fat) is an important influence on metabolic rate.

Subject	Gender	Mass	Rate
1	m	62.0	1792
2	m	62.9	1666
3	f	36.1	995
4	f	54.6	1425
5	f	48.5	1396
6	f	42.0	1418
7	m	47.4	1362
8	f	50.6	1502
9	f	42.0	1256
10	m	48.7	1614
11	f	40.3	1189
12	f	33.1	913
13	m	51.9	1460
14	f	42.4	1124
15	f	34.5	1052
16	f	51.1	1347
17	f	41.2	1204
18	m	51.9	1867
19	m	46.9	1439

(a) Enter this dataset in StatView and save it as: **obesity.svd** where you are saving all of your other files.

(b) Create a Cell Bar Chart containing both Mass and Rate divided by Gender. Title your graph "Mean Gender Study: Mass & Rate". Paste this into your document.

(c) Construct a Bivariate Regression Plot of the association between Mass and Rate for the entire group. Paste this into your document with a title of "Bivariate Regression Plot". Make sure you've properly selected the dependent and independent variable.

(d) What would you expect your Rate to be for a Mass of 45.25?

Problem 2

For each of the following questions, perform an appropriate statistical test to determine the answer. You will choose between the 4 tests that we learned in class. For each question, include the StatView table generated by your test into your Word document. Also, include a brief commentary that 1) justifies the type of test used 2) states the null hypothesis for the test and 3) directly answers the question posed based on the test you performed. Your grade will depend on your correct choice of a test and your commentary given.

Paste in your results from StatView and explain.

- 1) With regard to the obesity data used in the last question, is there a statistically significant difference in the mean Rate between men and women?
- 2) In the Lipid data file, was there a statistically significant difference in the mean triglycerides over 3 years (look at the triglycerides and triglycerides-3years).
- 3) In the Lipid data file, is there a statistically significant difference in the mean Cholesterol level between men and women?
- 4) In the Lipid data file is there a relationship between systolic blood pressure and weight?