Phil 12
Winter 2006

First Writing Assignment

Write a short paper (1-2 pages, double-spaced, typed) on the question assigned for your section. These are to be turned in at the beginning of class on Thursday, February 23. Present your answers totally in your own words—do not quote material either from the website or the lecture powerpoints. There is no need to quote anyone else—explain everything in your own words. You may draw upon sources (books, journals, or the internet) for an example. If so, you must provide a reference to the source you used.

A-01. Design or report on a test in which samples from two populations are examined to determine whether the populations differ in terms of the mean on a variable. Be very clear about what hypothesis is being tested and what prediction is used to test the hypothesis. Explain how the notion of statistical significance figures in the test of the hypothesis. Assume that the results are not statistically significant (.05) and state what conclusion one should draw from that fact and why.

A-02. Write a tutorial to explain to someone who does not know about correlations how to go about making a prediction based on a correlation. Explain all the information they need to use and the steps they must take. You may use an example of a correlation found in a newspaper or textbook or make up you own data and determine the needed values by using the applet available in the module on Linear Regression on the Inquiry website (instead of selecting one of the preset datasets, simply start typing in values for x and y in the appropriate places, use *enter* to create new rows, and select *update display* to show a scatter plot and the relevant values you need).

A-03. Write a tutorial explaining to a friend who does not understand p-values what the statement $p<.001$ means in a study claiming to establish a correlation based upon a sample. Say enough about the goal of such a study and how it would have been conducted to make it clear just what the statement means. Make it clear why p-values are reported and what the meaning of this particular p-value is.

A-04. Describe an example, real or made up, in which a researcher commits a Type 1 error. Explain in detail the circumstances in which a risk of Type 1 error arises. Then discuss what an investigator can do about the risk of Type 1 error. Can the risk be eliminated? If so, how? If not, why not and what should we do?