Core Assessment Project Help Sheet

Example hypotheses and related tests:

Example 1: Whether someone is robbed or not is dependent on gender.

Hypothesis: Whether someone has been robbed during the past years is dependent on whether the person robbed is male or female.

Null hypothesis: Whether someone has been robbed during the past years or not is independent, not associated, with their gender.

The independent variable is: _____

The dependent variable is: _____

Both variables are measured using at a _____ level?

Appropriate descriptive statistics for describing both the independent level of measurement and the dependent level of measurement are: percents, proportions, or ratios.

The appropriate test of significance would be a Chi-square test, using a 2 X 2 table. Look at Chapter 11 pages 265 and 266 for step by step computing instructions and example. Use Appendix C to compare your obtained Chi-square value with the critical value (at .05 alpha level) according to the degrees of freedom. Remember, the formula for degrees of freedom is: df = (R -1)(C-1).

Example 2: According to Nation Master (an international data base), the average years of schooling of adults in the U.S. is 12.

Hypothesis 1: The mean years of schooling for this sample is significantly different than the mean years of schooling for the U.S. population.

or

Hypothesis: The mean years of schooling for this sample is significantly larger than the mean years of schooling for the U.S. population.

or

Hypothesis: The mean years of schooling for this sample is significantly smaller than the mean years of schooling for the U.S. population.

Null hypothesis: The mean years of schooling for this sample will not differ significantly from that of the U.S. population.

The independent variable is: _____

The ~~independent~~ variable is measured on a _____ level. (Hint: when comparing two groups, the independent variable is whether cases belong to one group (or category) or another).
Appropriate descriptive statistics for describing the independent level of measurement are: percents, proportions, or ratios.

The dependent variable is: _____

The independent variable is measure on an _____ level.
Appropriate descriptive statistics for describing the dependent variable are: mean, median, mode, range, and standard deviation.

The appropriate test of significance is a t-test. Look at Chapter 8 pages 197 - 199 for formula and step by step example. Use Appendix B to compare your obtained t-test value with the critical value (at .05 alpha level, two tailed - Note: if you hypothesize that the sample mean is larger or smaller than that of the U.S. population, use the one-tailed columns) according to the degrees of freedom. Remember, the formula for t-test degrees of freedom is: df = N - 1.

Example 3: Gender affects annual income.

Hypothesis 1: The mean income of males is significantly different than the mean income of females.

or

Hypothesis: The mean income of males is significantly greater than the mean income of females.

Null hypothesis: The mean income of males does not differ from the mean income of females.

The independent variable is:

The independent variable is measured on a _____ level.
Appropriate descriptive statistics for describing the independent level of measurement are: percents, proportions, or ratios.

The dependent variable is:

The independent variable is measure on an _____ level.
Appropriate descriptive statistics for describing the dependent variable are: mean, median, mode, range, and standard deviation.

The appropriate test of significance is a t-test. Look at Chapter 8 pages 197 - 199 for formula and step by step example. Use Appendix B to compare your obtained t-test value with the critical value (at .05 alpha level, two tailed - Note: if you hypothesize that the males' income mean is larger than that of females', use the one-tailed columns) according to the degrees of freedom. 33