

SOCI 213/4 B – Statistics II Assignment 4

This assignment is due on April 4, 2013. You may deposit your assignment in my mailbox in the Sociology and Anthropology Department on the 11th floor no later than the due date or you may hand it in during the class of April 4. Late assignments will not be accepted.

It is expected that your assignment be word-processed. If this poses a problem, please see me prior to the due date. Include your name and student ID number on every page and number each page.

Problem 1 - Hypothesis Testing: The two-sample case (worth 5.5 points) **Be sure to show all of the steps and the details of your calculations.**

Is there a statistically significant difference between males and females in terms of the number of hours they spend reading newspapers in a typical week? The mean number of hours per week (by gender) that respondents reported reading a daily newspaper is shown below. Results are from a nationally random sample. Complete the five step model and write a short interpretation of your results.

Males	Females
Mean ₁ =11.2	Mean ₂ =7.5
$s_1 = 1.3$	$s_2 = 1.1$
$N_1 = 60$	$N_2 = 61$

Problem 2 – ANOVA (worth 7 points)

Does the importance of spiritual (or religious) views vary by educational level? In order to answer this question, use the dataset **assign4-213** and locate the variables **edu5** and **rlr_q110**.

edu5: Highest level of education obtained by the respondent (5 groups). **This variable should be considered nominal.**

1. Doctorate/masters/bachelor's degree
2. Diploma/certificate from community college/trade/technical
3. Some university/community college
4. High school diploma
5. Some secondary/elementary/no schooling

Not stated and don't know are coded as 8 and 9 respectively and are to be considered as missing values.

rlr_q110: How important are your (religious or) spiritual beliefs to the way you live your life? Would you say they are:

1. very important
2. somewhat important
3. not very important
4. not at all important

Not stated and don't know are coded as 8 and 9 respectively and are to be considered as missing values. **This variable should be considered interval-ratio and is the dependent variable.**

Requirements

1. Using SPSS, compute ANOVA.
2. Obtain and print a visual representation of the means.
3. Using the five step model
 - a. State the Null hypothesis (**step 2**)
 - b. Select the sampling distribution, *alpha*, *dfw*, *dfb*, and critical value (*optional*) (**step 3**)
 - c. Report the results from SPSS (you do not need to perform any calculations) (**step 4**)
 - d. State the conclusion and interpret the results (**step 5**)
4. Perform a **Bonferroni** *post-hoc* comparison and report which educational groups **significantly** differ in terms of spiritual beliefs. Interpret the results by trying to identify patterns.