

STAT 1202 – Assignment #3 Option 1

Two-Sample T-Tests

In this assignment you will examine the differences between groups (measured at the nominal or ordinal level) on selected variables (measured at the interval or ratio level) by calculating the Two Sample T-Test Assuming Equal Variances (t-stat) for each variable. Before generating your results, consider how you think these groups might differ on each of the variables; in other words, consider a research hypothesis.

You will create a series of tables: (1) a summary of the appropriate descriptive statistics for every variable used in this assignment and (2) summary the results of the t-tests that you conducted. After creating the tables, you will write a brief description of your findings, and offer an interpretation of the results you have generated.

Here are your specific tasks:

1. Select two nominal or ordinal level measures to compare the other variables on. Remember, with a t-test you can only compare two groups. If you choose an ordinal level measure then you will need to regroup it into two groups. For example, if you want to compare people based on their favourite colour and you have the following groups: green, blue, red, orange, purple, and yellow you could regroup into Primary Colours and Non-Primary Colours. Run the appropriate descriptive statistics for the two variables you chose.
2. Select two interval or ratio variables from your chosen data set. Run the appropriate descriptive statistics for the three variables you chose.
3. State a research hypothesis concerning what you believe the differences are between groups based on the interval/ratio variables. You will have 4 null and 4 alternative hypotheses in total.
4. Using all the variables you selected, present the results of the t-tests (remember to only include the appropriate information from the output – I do not want to see the output cut and paste into the Word document).
5. Write a brief (i.e., half a page) description of your results based on the analysis you conducted. Be sure to make specific reference to each of the tables in this written description, highlighting aspects of particular interest, and offering an interpretation of the results. Be sure to include a comment on whether or not your research hypothesis has been supported.

Be sure that your tables are complete – properly labelled, titled, and including all of the relevant descriptive statistics.

Other Details:

Groups of 1-3 (sign up on BlackBoard even if you are doing the assignment by yourself)

Total Value 15% of your final grade

Submit via the Assignment 3 Dropbox on BlackBoard (no emailed assignments)

Due Date: April 18, 2019 by 11:59pm

Examples of Table to be completed for Assignment #3 (option 1)

Table 7

Results of t-tests and Descriptive Statistics SAT Verbal, SAT Math, and GPA by Sex

Outcome	Group						t-stat	p	df
	Male			Female					
	$\bar{x}$	sd	n	$\bar{x}$	sd	n			
SAT-Verbal	463.81	98.89	45	532.21	101.23	44	-3.22	>.001	87
SAT-Math	515.43	99.56	44	483.31	98.97	44	1.52	.0879	86
College GPA	2.71	1.32	45	3.16	1.16	44	-1.71	.0794	87